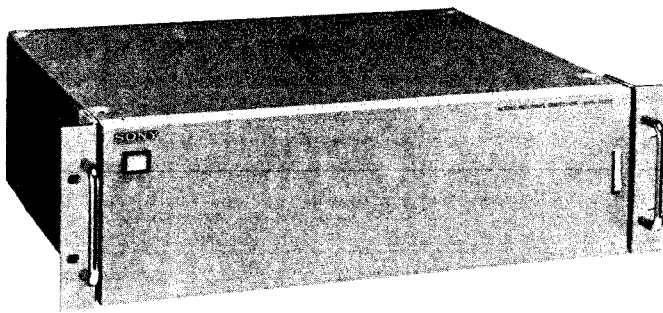


SONY

AUDIO ROUTING SWITCHER (12×12)

BVS-A1212



BCG-Service-Ltg.
Eing.: 11. MRZ. 1991
Erl.

MAINTENANCE MANUAL

1st Edition (Revised 4)

Serial No. 20001 and Higher (J)

Serial No. 10001 and Higher (E)

WARNING

For the customers in the USA

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.

"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC rules."

—or—

"This equipment complies with the requirements in Part 15 of FCC rules for a Class A Computing Device."

—or equivalent.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

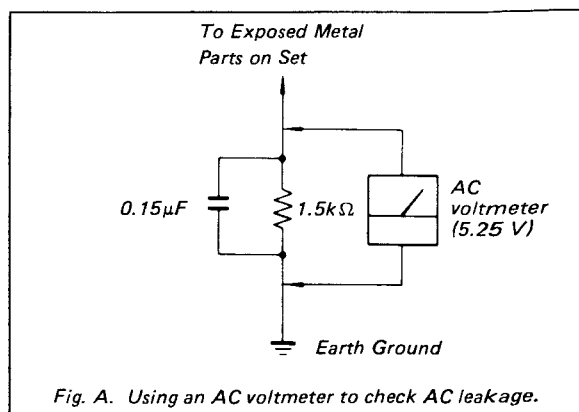


Fig. A. Using an AC voltmeter to check AC leakage.

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

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第1章 設置

1-1. 使用環境

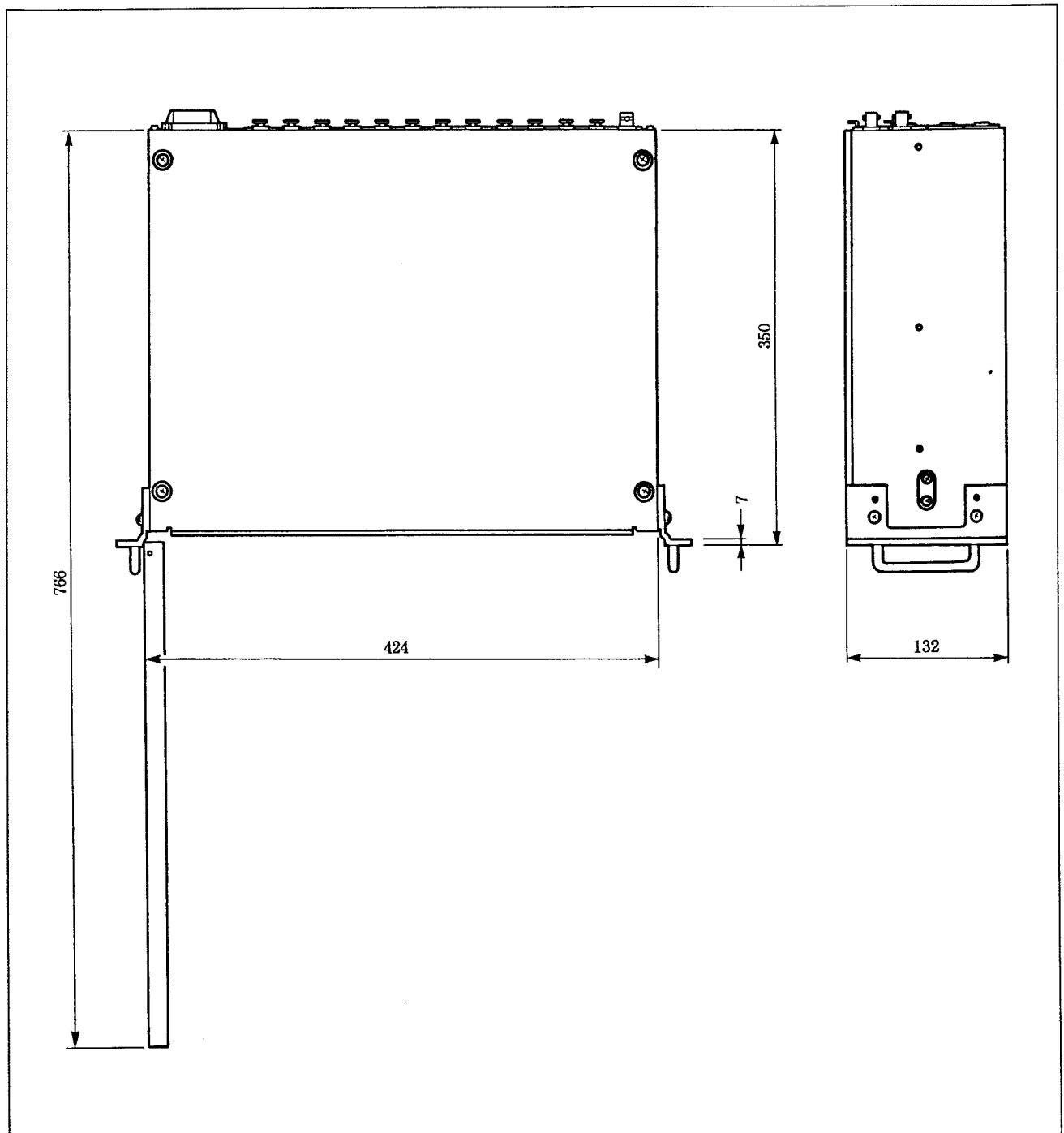
- セット内の温度上昇を防止するために、設置する場所の空気の循環には充分注意して下さい。
- セットの動作環境温度は $0^{\circ}\text{C}\sim 40^{\circ}\text{C}$ です。セットを熱源のそばに設置しないで下さい。

1-2. 設置スペース

- セットの外形寸法は図の通りです。

1-3. 電源

- BVS-A1212の電源は、スイッチング電源 ($\pm 15\text{ V}$, $+5\text{ V}$) を使用しており、入力は AC $100\sim 240\text{ V}\pm 10\%$ 切り換えなしで対応します。

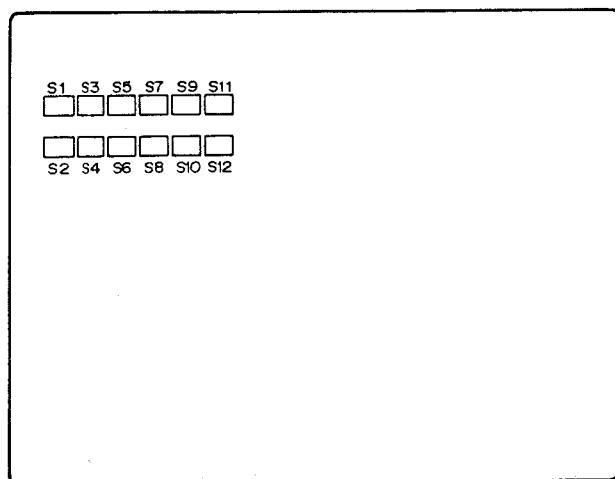


1-4. システムセレクトスイッチのセッティング

- セレクトスイッチの機能は下記の通りですので、各々のシステムに合わせて、また状況に応じて、使用して下さい。

1-4-1. ASW-17 基板

- S1~12; 600Ω 終端抵抗 ON/OFF スイッチ
工場出荷時; すべて ON に設定されています。



ASW-17 基板 (部品面)

1-4-2. CPU-68 基板

- S1 は下記のように設定します。

No.	機 能
1	テストモードの選択
2	クロスポイントの強制的なイニシャライズ
3	未使用
4	
5	
6	
7	REMOTE 3 の TALLY OUT
8	REMOTE 1, 2 の RESPONSE

S1-1 設定

OPEN	テストモード
CLOSE	通常使用時

S1-2 設定

OPEN	クロスポイントの初期化を強制的に行う。
CLOSE	クロスポイントの初期化をしない。

S1-7 設定

OPEN	REMOTE 3 に TALLY を出さない。
CLOSE	REMOTE 3 に TALLY を出す。

S1-8 設定

OPEN	REMOTE 1, 2 に RESPONSE を返送しない。
CLOSE	REMOTE 1, 2 に RESPONSE を返送する。

- S2; S3 が '0' '1' の時に、BKS-R1210 でコントロールする DESTINATION を設定します。

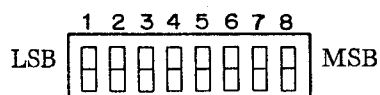
No.	BKS-R1210 の RED 側	BKS-R1210 の GREEN 側
0	MONITOR SOURCE SIDE	MONITOR DESTINATION SIDE
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	
6	DESTINATION 6	
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E	DESTINATION 1~12	
F	を一斉に切り換える。	

- S3; BKS-R1210 機能切り換えスイッチ

No.	機 能	
0	ONE BUS コントロール パネル	切り換え可能
1	ONE BUS コントロール パネル	TALLY OUT ONLY
2	X-Y コントロール	切り換え可能
3	X-Y コントロール	TALLY OUT ONLY

- S4; ユニットアドレスの選択

REMOTE 1, 2 において、制御する場合の本機のアドレス (UA2) を設定します。



1 つもしくは 2 つまで ON にすることができます。

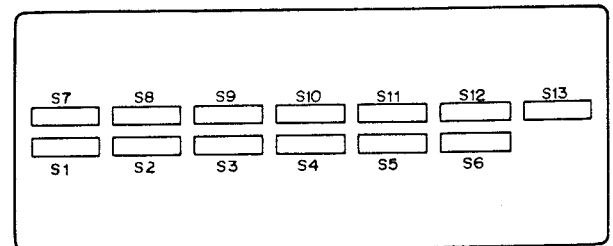
- S11; リセットスイッチ

CPU-68 基板工場出荷時の設定値

SW No.	設定値
S1	1-1
	1-2
	1-3
	1-4
	1-5
	1-6
	1-7
	1-8
	CLOSE (OFF)
S2	0
S3	0
S4	4-1 OFF
	4-2 OFF
	4-3 ON
	4-4 ON
	4-5 OFF
	4-6 OFF
	4-7 OFF
	4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	OFF
JW2	ENA
JW3	SELF

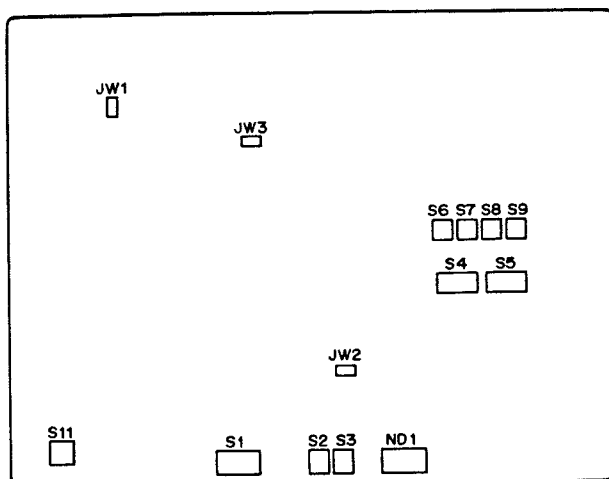
1-4-3. TR-56 基板

- S1~13: 600 Ω 切り換えスイッチ
600, 150, 37.5 Ω の切り換えを行います。



TR-56 基板 (部品面)

工場出荷時: 全て 600 Ω に設定されています。

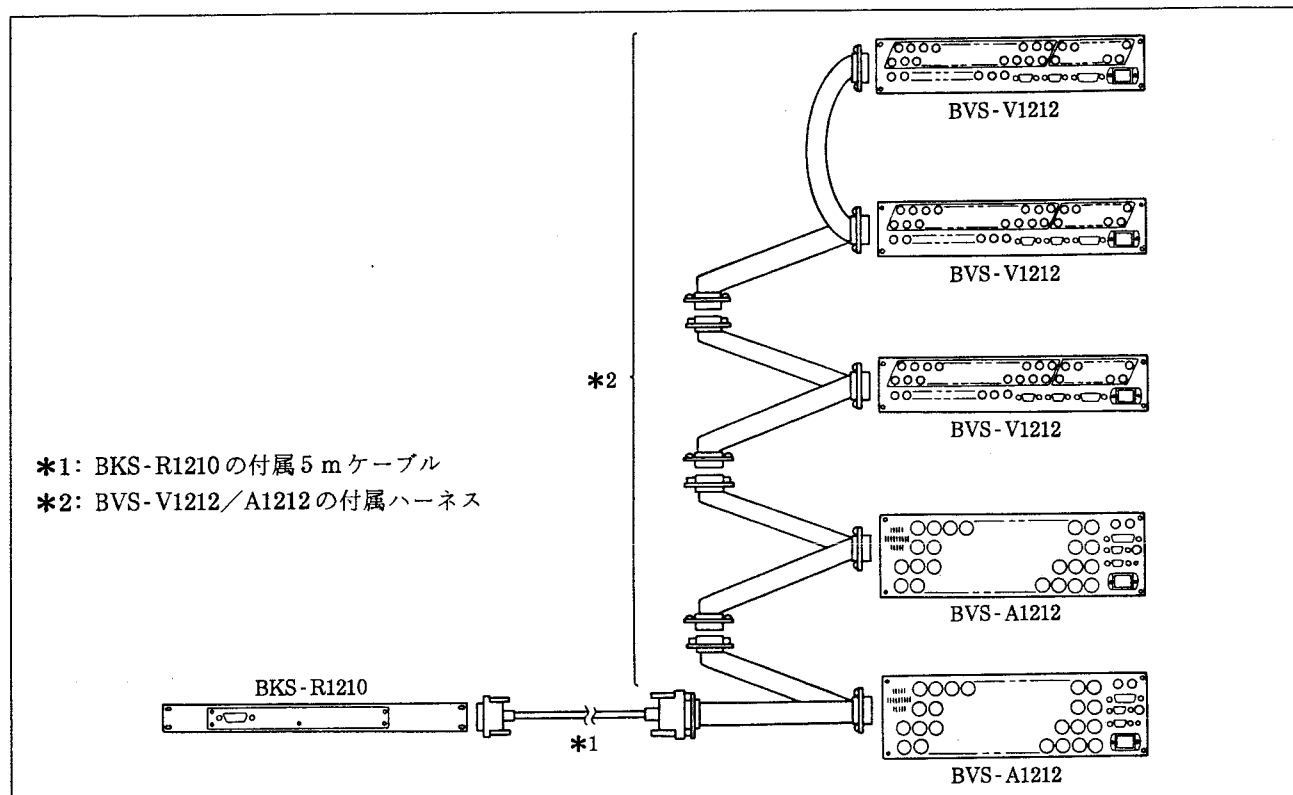


CPU-68 基板 (部品面)

1-5. BKS-R1210 との接続

BKS-R1210 1台でBVS-V1212/A1212が複数台接続可能です。

[接続方法]

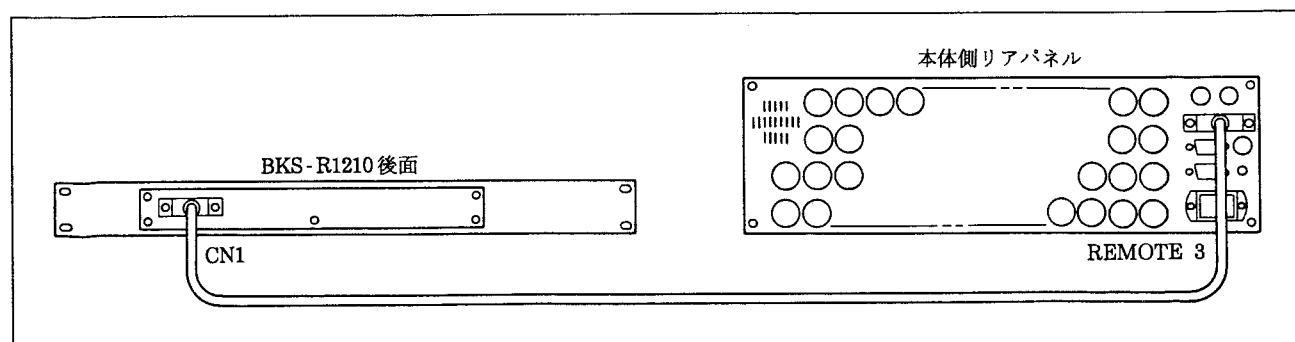


[接続後の設定]

- (1) 接続されている BVS-V1212/A1212 の CPU-68 基板 S2, S3 は全て同じ設定にしてください。
- (2) 接続された中で、1 台のみ CPU-68 基板 S1-7 を CLOSE, 残りはすべて CPU-68 基板 S1-7 を OPEN にしてください。

1-6. BKS-R1210 の取り付け

- BKS-R1210 のリモコンパネルの CN1 と BVS-A1212 のリアパネルの REMOTE 3 を BKS-R1210 に付属されているリモコンケーブルで接続します。

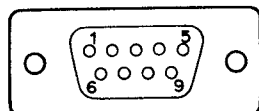


1-7. コネクタの入出力信号

コネクタパネルのコネクタの入出力信号は下記の通りです。

1-7-1. BVS-A1212

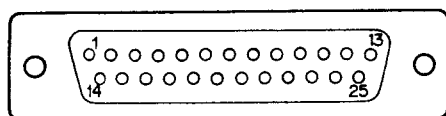
REMOTE 1, 2 (D-SUB 9ピン FEMALE)



— EXT VIEW —

PIN No.	信号名	機 能
1	F.G.	FRAME GROUND
2	RS422 T-	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R-	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3 (D-SUB 25 ピン FEMALE)

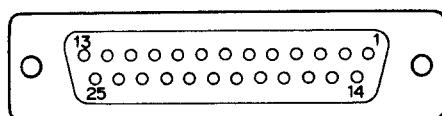


— EXT VIEW —

PIN No.	信号名	機 能
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	DESTINATION SELECT BINARY DATA; OUTPUT
6	DST-B	
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	SOURCE, DESTINATION SELECT; INPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	SRC-D	SOURCE SELECT BINARY DATA; OUTPUT
24	SRC-C	
25	SRC-B	

1-7-2. BKS-R1210

D-SUB 25ピン MALE



— EXT VIEW —

PIN No.	信号名	機 能
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	GREEN TALLY BINARY DATA; INPUT
6	A1-B	
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	BUTTOM BINARY DATA; OUTPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	V-D	RED TALLY BINARY DATA; INPUT
24	V-C	
25	V-B	

1-8. 接続コネクタ

コネクタパネル部のコネクタの機能名称	接続するケーブル側のコネクタの部品番号と名称
REMOTE 1, 2	RCC-5G RCC-10G (リモコンケーブル 9P) RCC-50G
REMOTE 3	接続コード (BKS-R1210) 1-574-883-11

1-9. ラックマウントの方法

1-9-1. 19 インチ標準ラックに組み込む場合

・BVS-A1212

<推奨品>

スライドレール: ACCURIDE社製, RACKMOUNT
SUDES MODEL C-203-22

SLIDE LENGTH 22 INCH 2本

ブラケット : ACCURIDE 社製, #5516-2 4個

<用意するもの>

インナーメンバー取り付け用ネジ (+B 4×6) 6本

板ナット (3穴) 8枚 (ソニー部品番号 3-651-812-01)

ブラケット固定用ネジ① (+B 4×8) 8本

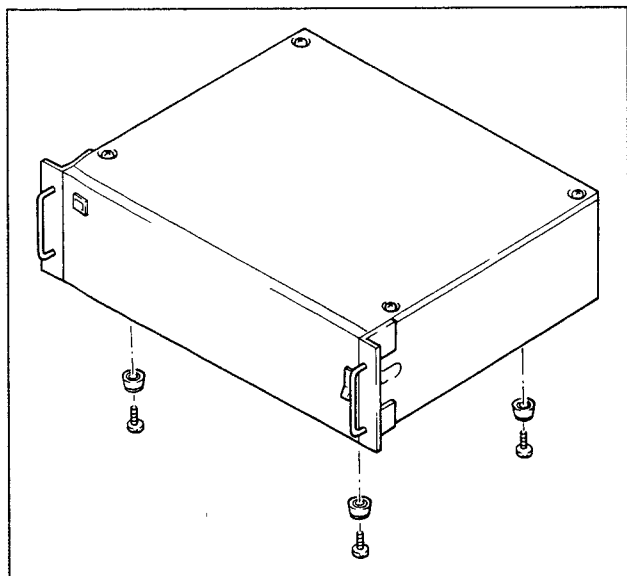
ブラケット固定用ネジ② (+B 4×12) 12本

ラックマウント用ネジ (+RK 5×16) 4本

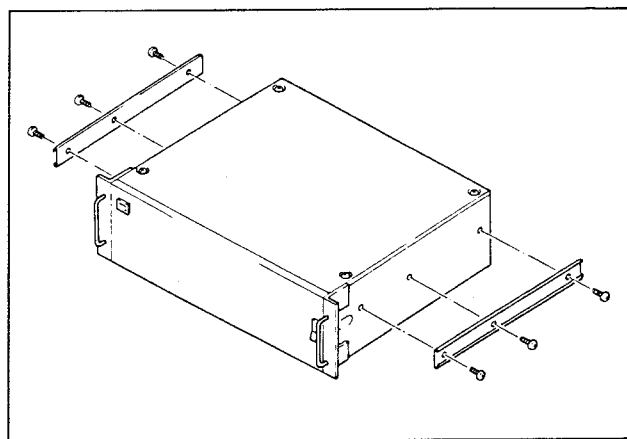
ラックマウント用飾りワッシャー 4個

(ソニー部品番号 2-297-913-01)

1. セット底面の脚4個を取り外します。

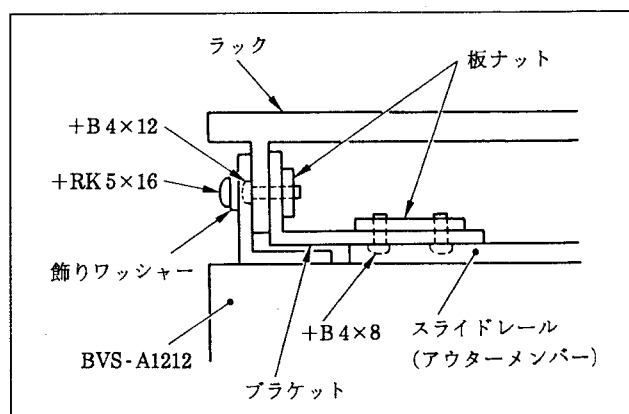


2. 用意したネジ (+B 4×6) でスライドレールのインナーメンバーを取り付けます。



3. スライドレールのアウターメンバーとブラケットを4枚の板ナット (3穴) を使用し8本のネジ (+B 4×8) で仮止めします。

4. スライドレールのアウターメンバーのブラケットを板ナットでラックに取り付け、スライドレールの先端からラック外側までの寸法がセット側のインナーメンバーの位置と合う様に調整します。



・BKS-R1210

<用意するもの>

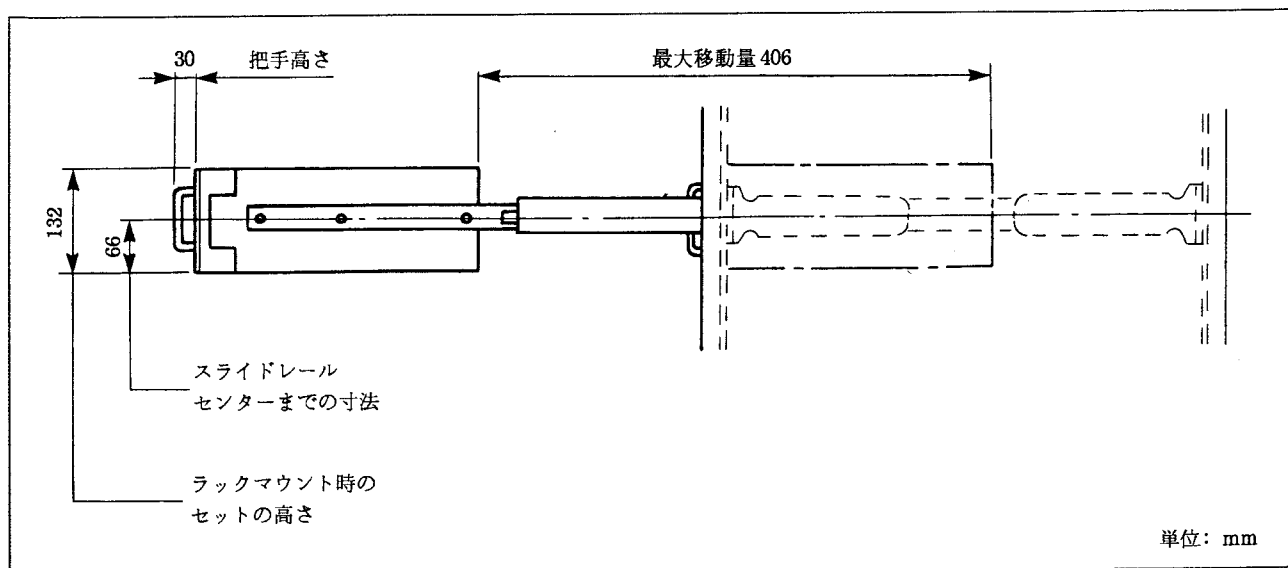
ラックマウント用ネジ (+RK 5×16) 4本

ラックマウント用飾りワッシャー 4個

(ソニー部品番号 2-297-913-01)

1. ラックマウント用ネジとワッシャーで取り付けます。

BVS-A1212 をラックマウントしたときの最大移動距離は下記の通りです。



1-9-2. LMS (LIBRARY MANAGEMENT SYSTEM) に組み込む場合

コンソールに付属のスライドレール、ラックアングル、ブラケットを使用してください。

1. LMSのコンソールに付属しているラックアングルとブランクパネルを外し、ブランクパネルからラックアングルを外します。
2. セット底面の脚4個とラックアングルを取り外します。
3. 付属のネジ (+B 4×10) でラックアングルを取り付けます。
4. コンソールに設置されているスライドレールからインナーメンバーを抜き取ります。
5. 付属のネジ (+B 4×8) でスライドレールのインナーメンバーを取り付けます。

注) この際、上記の図の推奨位置ではなく、セット底面から 74.2 mm の位置に取り付けて下さい。

1-10. 付属品アクセサリ

- 電源コード (1)
- オペレーションマニュアル (1)
- メンテナンスマニュアル (1)
- プラグホルダー (1)
- BNC 終端抵抗 (75 Ω) (1)
- ユニットハーネス (25P) (1)

SECTION 1 INSTALLATION

1-1. OPERATING ENVIRONMENT

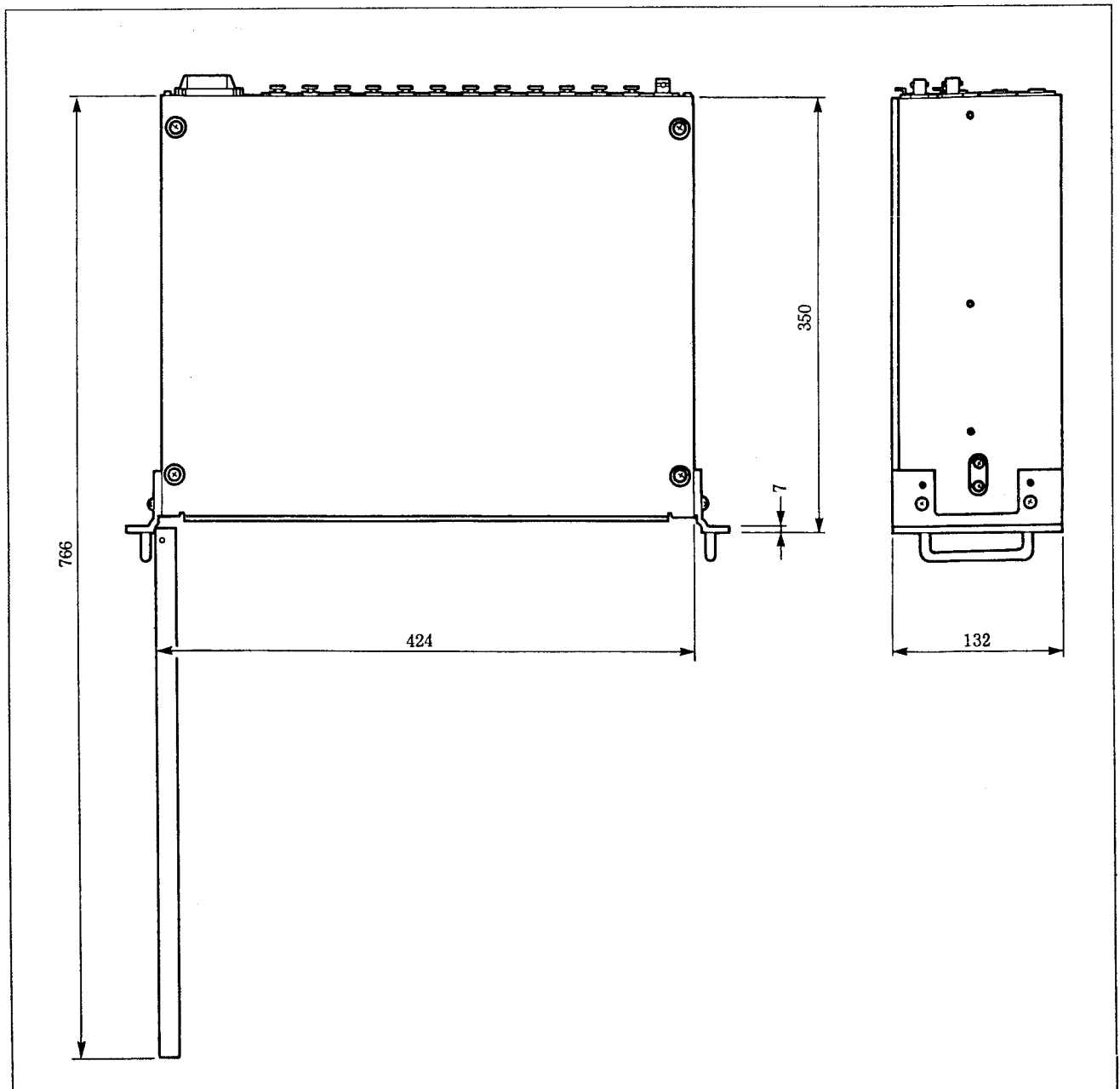
.Be very careful of the air circulation at the installation site to prevent an increase in temperature within the unit.
.As the operating temperature of the unit is 0°C to 40°C, do not install the unit close to a source of heat.

1-2. INSTALLATION SPACE

.The external dimensions of the unit are as shown in the figure.

1-3. POWER SOURCE

.A switching regulator ($\pm 15V$, $+5V$) is used for the power source of the BVS-A1212; therefore, the unit can be used with a voltage of 100V to 240V $\pm 10\%$ without changing the supply voltage.



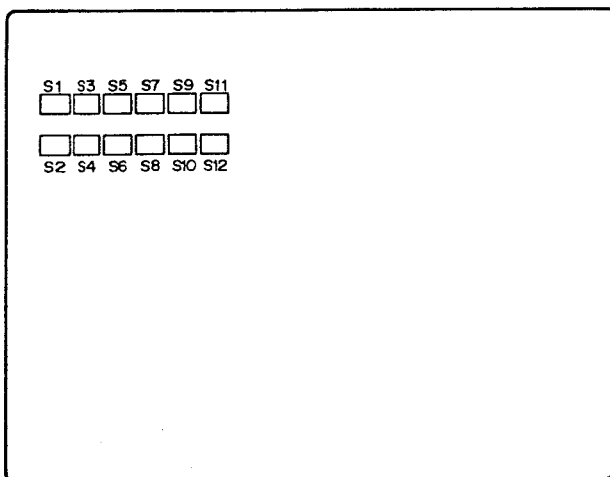
1-4. SYSTEM SELECT SWITCH SETTINGS

The functions of the select switches are the following. Use them according to your system and your requirements.

1-4-1. ASW-17 Board

.SW1 through SW12; 600Ω terminate resistor ON/OFF switches.

Setting before shipment; all ON



ASW-17 board (Component Side)

1-4-2. CPU-68 Board

.Set to the SW1 in the table below.

No.	Function
1	Select of TEST MODE
2	Compulsory initialize of close point.
3	unused
4	
5	
6	
7	TALLY OUT of REMOTE 3
8	RESPONSE of REMOTE 1 and 2

Set to the SW1-1

OPEN	TEST MODE
CLOSE	Generally use

Set to the SW1-2

OPEN	Enable to perform initialize of close point compulsory.
CLOSE	Disable to perform initialize of close point.

Set to the SW1-7

OPEN	Disable to send TALLY in REMOTE 3.
CLOSE	Enable to send TALLY in REMOTE 3.

Set to the SW1-8

OPEN	Disable RESPONSE in REMOTE 1 and 2.
CLOSE	Enable to RESPONSE in REMOTE 1 and 2.

.SW2; When SW3 is set to '0' or '1', set to controlled DESTINATION in the BKS-R1210.

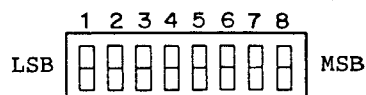
No.	RED Side of BKS-R1210	GREEN Side of BKS-R1210
0	MONITOR SOURCE SIDE	MONITOR DESTINATION SIDE
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	
6	DESTINATION 6	
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E	Change the destination	
F	from 1 to 12 all at once.	

.SW3; The switch changed the functions of the BKS-R1210

No.	Function	
0	ONE BUS CONTROL PANEL	Enable to change
1	ONE BUS CONTROL PANEL	TALLY OUT ONLY
2	X-Y CONTROL	Enable to change
3	X-Y CONTROL	TALLY OUT ONLY

.SW4; Select of unit address

Set to the address (UA1), when controlled BVS-A1212 in REMOTE 1 and 2.



One or two switches are able to set to ON.

.SW11; RESET SWITCH

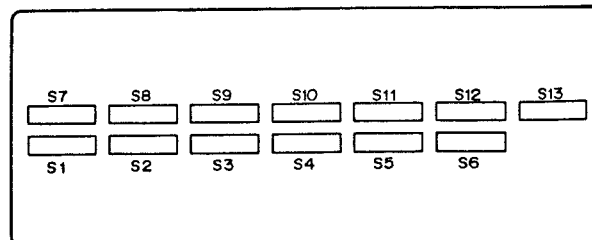
Setting before shipment of CPU-68 board.

SW No.	Position
S1	1-1
	1-2
	1-3
	1-4
	1-5
	1-6
	1-7
	1-8
S2	0
S3	0
S4	4-1 OFF
	4-2 OFF
	4-3 ON
	4-4 ON
	4-5 OFF
	4-6 OFF
	4-7 OFF
	4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	OFF
JW2	ENA
JW3	SELF

1-4-3. TR-56 Board

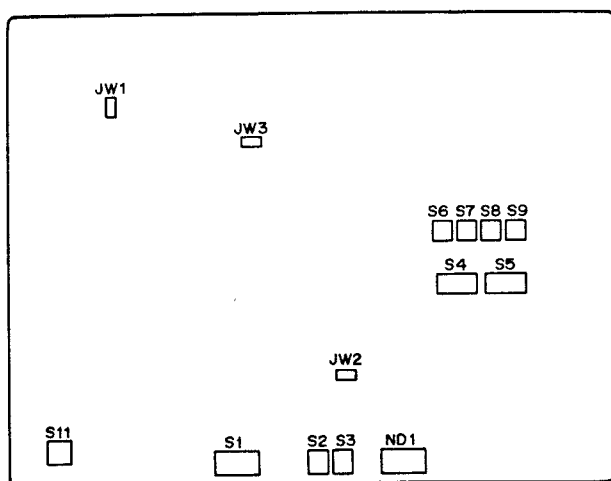
.SW1 through SW13; the switches changed 600Ω.

Perform to change of 600, 150, or 37.5Ω.



TR-56 Board (Component Side)

Setting before shipment; set to all 600Ω.

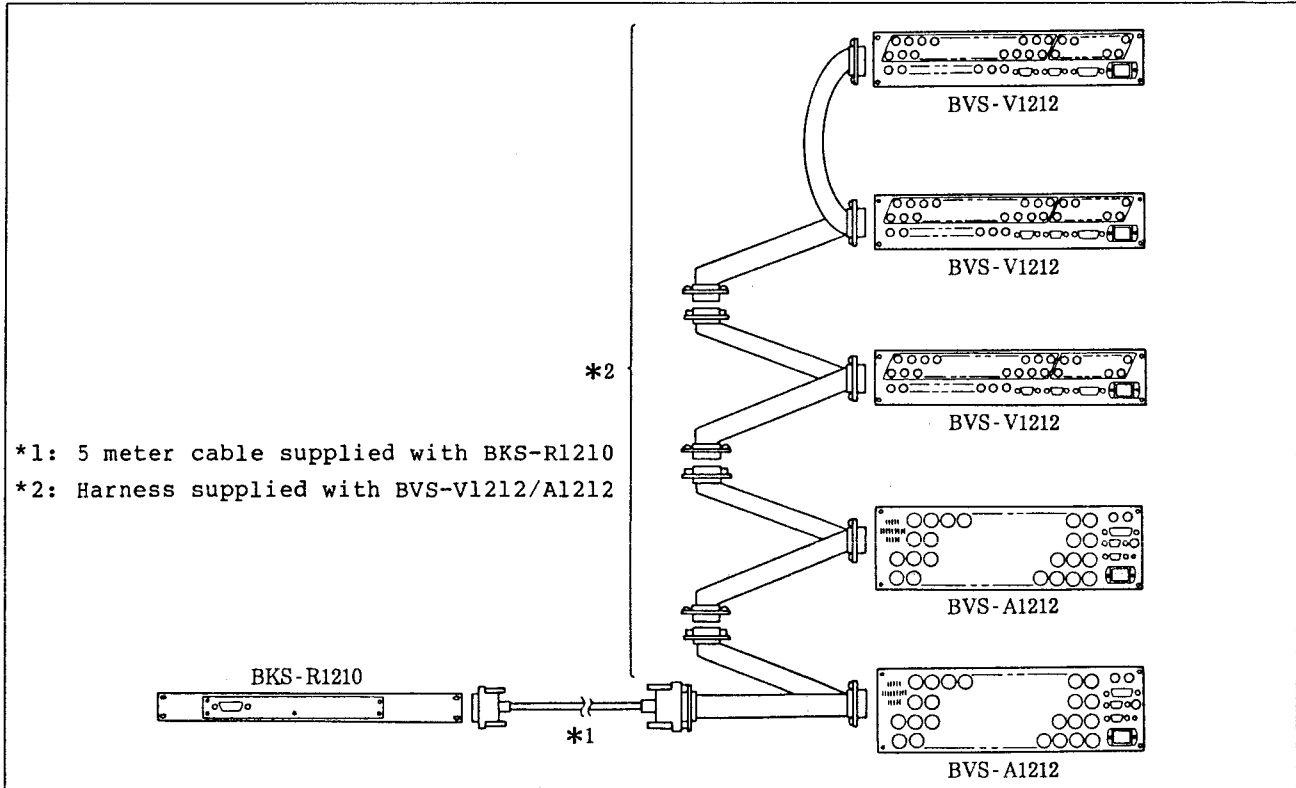


CPU-68 Board (Component Side)

1-5. CONNECTIONS WITH THE BKS-R1210

Two or more BVS-V1212 and BVS-A1212 units can be connected to a single BKS-R1210.

[Connection method]

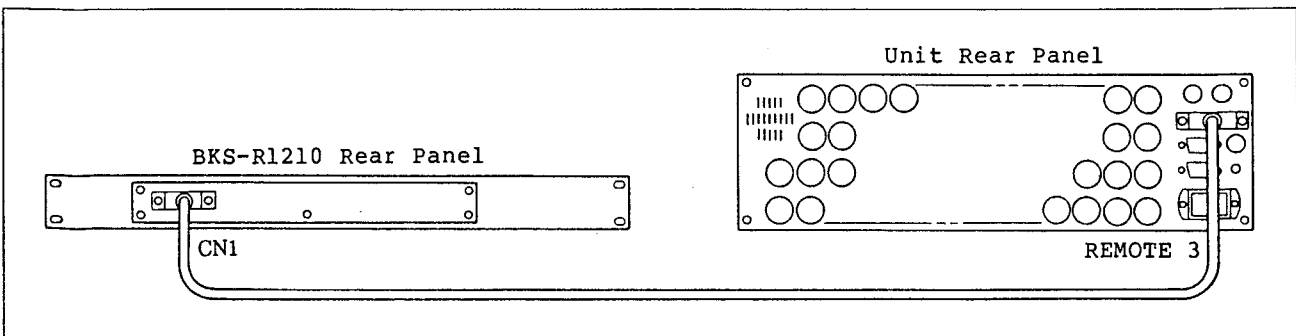


[Post connection settings]

- (1) Set S2 and S3 on the CPU-68 boards of the connected BVS-V1212 and BVS-A1212 units all to the same setting.
- (2) S1-7 on the CPU-68 board of one of the connected units should be set to CLOSE. Set S1-7 on the CPU-68 boards of all the other units to OPEN.

1-6. INSTALLATION OF BKS-R1210

.Connect to the CN1 of BKS-R1210 remote panel and REMOTE3 of BVS-A1212 by using remote control cable of BKS-R1210 accessories.

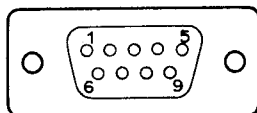


1-7. INPUT/OUTPUT SIGNALS OF THE CONNECTOR

The input/output signals of the connector on the connector panel are the following.

1-7-1. BVS-A1212

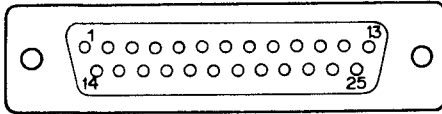
REMOTE 1.2 (D-SUB 9PIN FEMALE)



-EXT VIEW-

PIN No.	Signal	Function
1	F.G.	FRAME GROUND
2	RS422 T-	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R-	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3. (D-SUB 25PIN FEMALE)

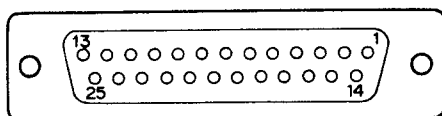


-EXT VIEW-

PIN No.	Signal	Function
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	DESTINATION SELECT BINARY DATA; OUTPUT
6	DST-B	
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	SOURCE, DESTINATION SELECT; INPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	SRC-D	SOURCE SELECT BINARY DATA; OUTPUT
24	SRC-C	
25	SRC-B	

1-7-2. BKS-R1210

(D-SUB 25PIN MALE)



-EXT VIEW-

PIN No.	Signal	Function
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	GREEN TALLY BINARY DATA; INPUT
6	A1-B	
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	BUTTOM BINARY DATA; OUTPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	V-D	RED TALLY BINARY DATA; INPUT
24	V-C	
25	V-B	

1-8. CONNECTOR

Function name of the connector on the connector panel	Part number of the connector and its name on the cable side
REMOTE 1, 2	RCC-5G
	RCC-10G (Remote control cable 9P)
	RCC-50G
REMOTE 3	Connector code (BKS-R1210) 1-574-883-11

1-9. RACK MOUNTING

1-9-1. Mounting onto a 19-inch Standard Rack

.BVS-A1212

Recommended products

Slide rail: RACKMOUNT SUDES MODEL C-203-22
made by ACCURIDE.

SLIDE LENGTH 22 INCH.

Bracket : #5516-2 made by ACCURIDE

<Prepare the following>

Inner member attaching screw (+B4x6) 6

Flut nut (3 holes) 8 (SONY Part Number:
3-651-812-01)

Bracket mounting screw ① (+B4x8) 8

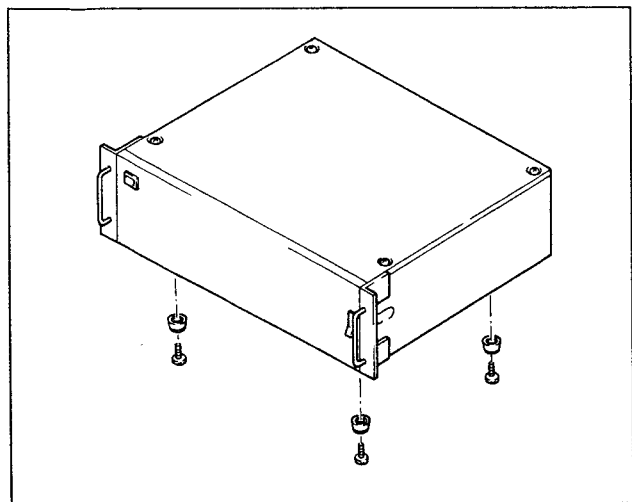
Bracket mounting screw ② (+B4x12) 12

Rack mounting screw (+RK5x16) 4

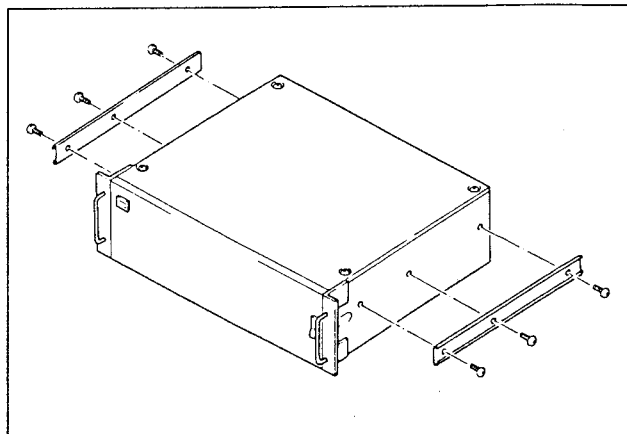
Rack mounting decorative washer 4

(SONY Part Number: 2-297-913-01)

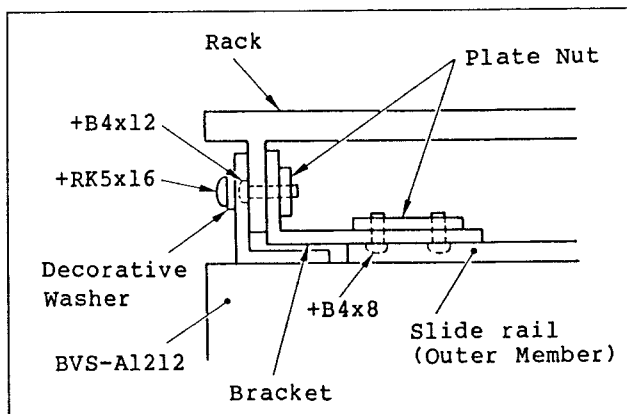
1. Remove the four feet from the bottom of the unit.



2. Attach the inner member of the slide rail with the screws (+B4x6).



3. Tighten the bracket and the outer member of the slide rail temporarily with the eight screws (+B4x8) and with the four plate nuts which have 3 holes.
4. Attach the outer member bracket of the slide rail to the rack with a flat nut. Then adjust so that the length between the and of the slide rail and the outside of the rack is equal to that of the inner member at the set side.



.BKS-R1210

<Prepare the following>

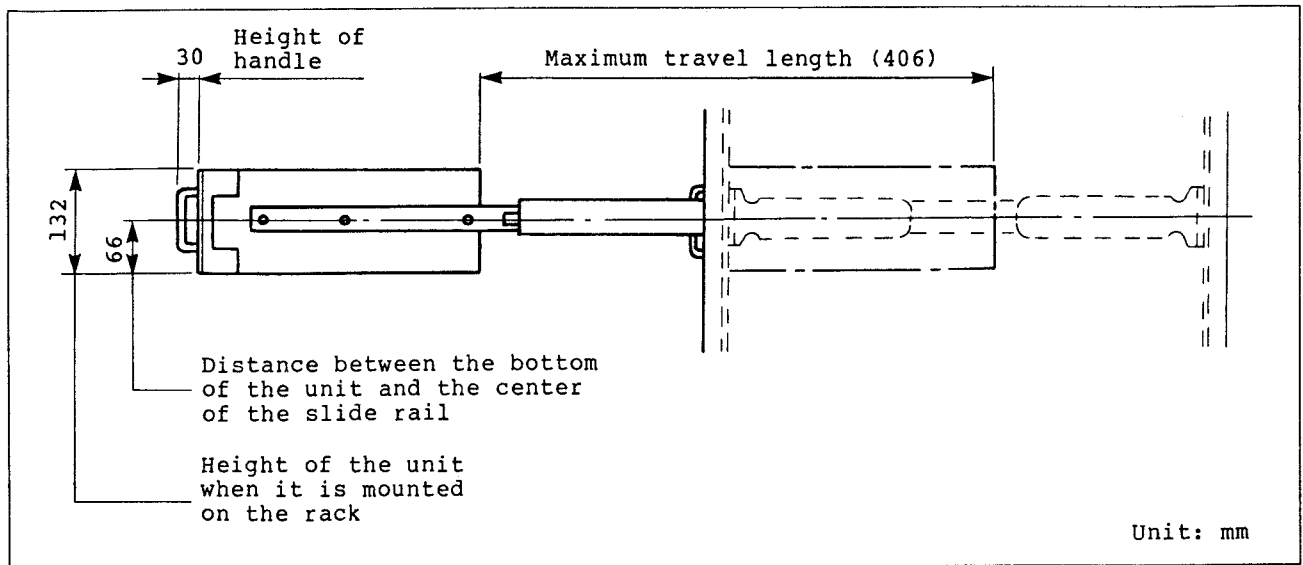
Rack mounting screw (+RK5x16) 4

Rack mounting decorative washer 4

(SONY Part Number: 2-297-913-01)

1. Attach with a rack mounting screw and a washer.

When BVS-A1212 is mounted on the rack, the maximum travel length is as follows.



1-9-2. Mounting onto LMS (Library Management System)

Use the slide rail, rack angle, and bracket of the LMS console.

1. Remove the rack angle and the blank panel that are attached to the console of LMS, and remove the rack angle from the blank panel.
2. Remove the four feet from the bottom of the unit.
3. Attach the rack angle with the screws (+B4x10)
4. Remove the inner member from the slide rail that is mounted on the console.
5. Attach the inner member of the slide rail with the screws. (+B4x10)

Note) Now, attach the inner member of the slide rail not to the recommended position in the above but 74.2mm from the bottom of the unit.

1-10. ACCESSORIES

.Power cable	(2)
.Operation Manual	(1)
.Maintenance Manual	(1)
.Pulg Holder	(1)
.BNC teminal	(1)
.Unit harnes(25P)	(1)

第2章 サービスインフォメーション

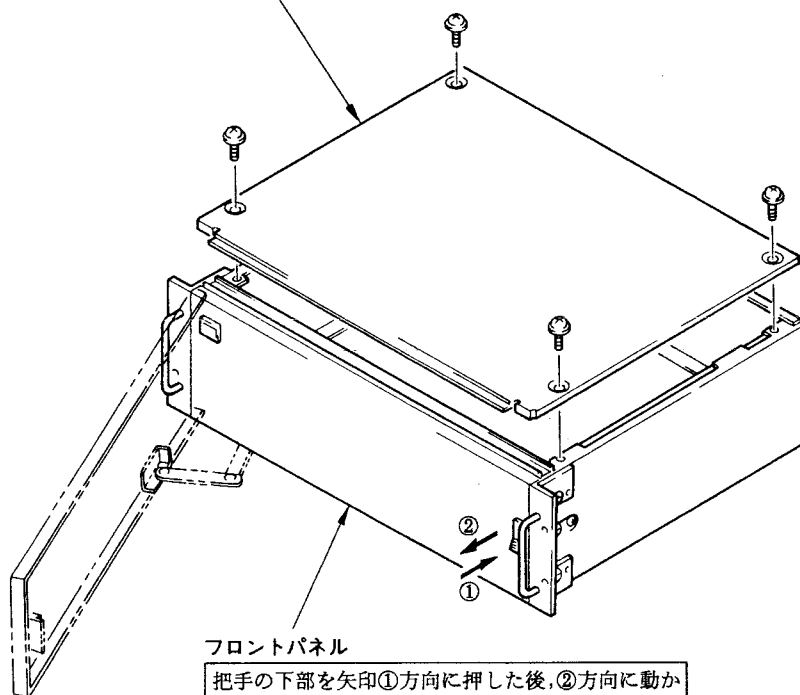
2-1. コンソールからの取り外し

- ・接続されているコネクタを抜き、コンソールから静かに引き抜いて下さい。

2-2. 外装の開閉／取り外し

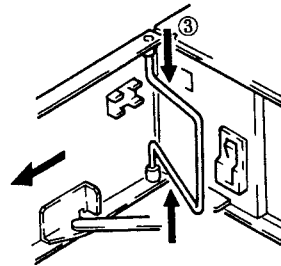
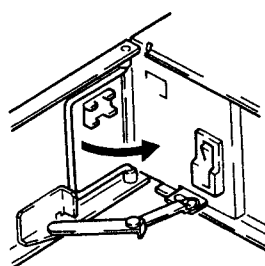
上面パネル

4本のネジをはずすことで上面パネルは取り外せます。



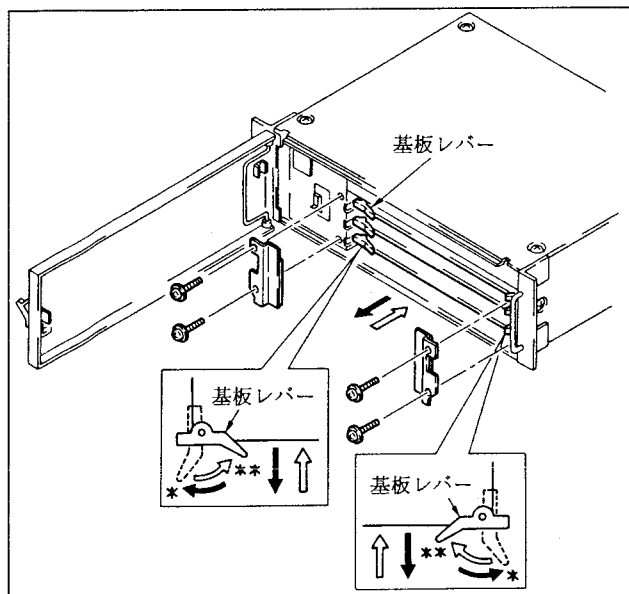
フロントパネル

把手の下部を矢印①方向に押した後、②方向に動かします。これによりフロントパネルは開きます。さらにヒンジ部分のシャフトをおこし③方向に押すとフロントパネルを取りはずすことができます。



2-3. カード基板の取り付け／取り外し方

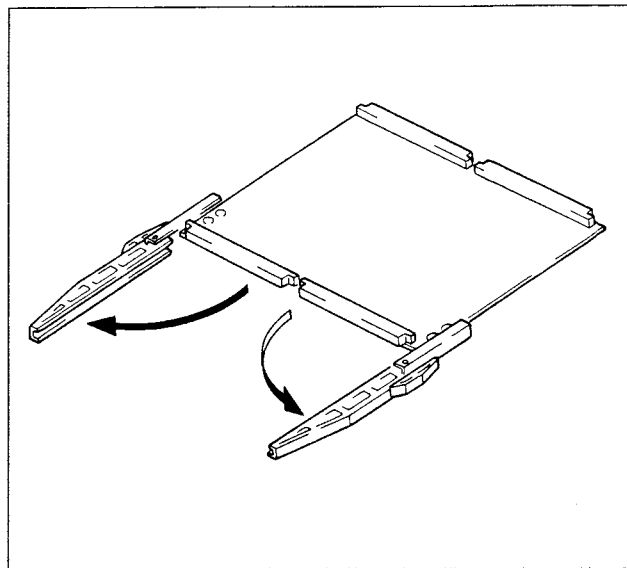
- 基板レバーを矢印*の方向へ押し手前に引くと、取り外すことができます。
- 基板レバーガイド、基板ガイドに沿って、挿入します。基板レバーを矢印**方向に倒すと基板を取り付けることができます。



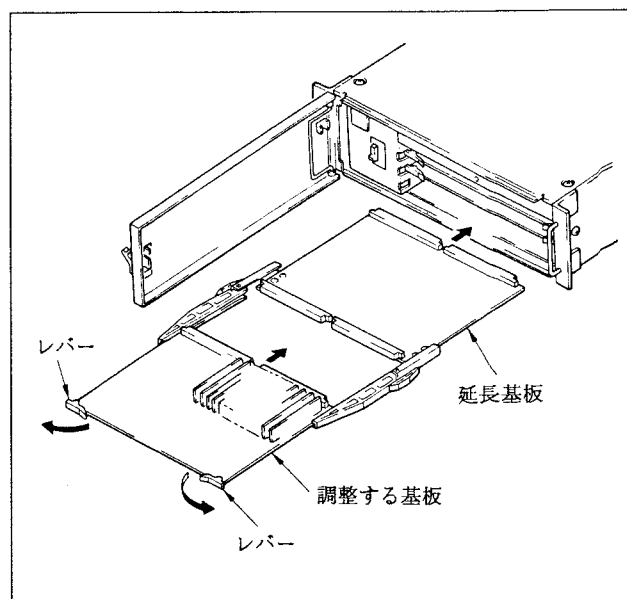
2-4. サービス方法

- CPU-68, ASW-17 基板の調整方法

- (1) BVS-V1212に付属している延長基板のレールを開きます。



- (2) レバーを外側に押し開いて調整基板を抜き、延長基板を差し込みます。



2-5. 回路構成

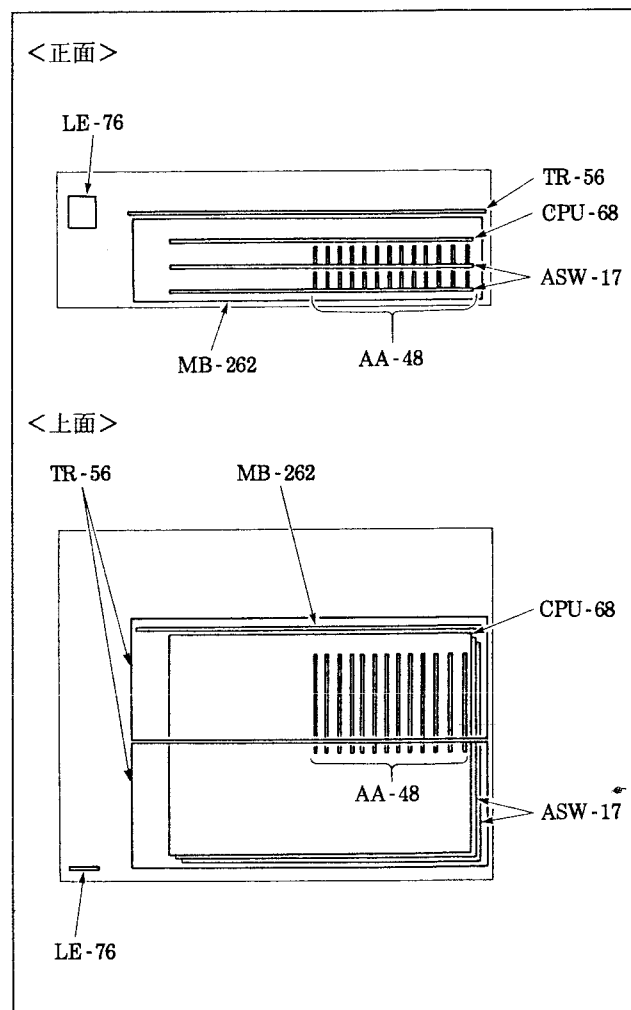
2-5-1. BVS-A1212

名 称	機 能
AA-48	オーディオアンプリファイヤーボード
ASW-17	オーディオマトリックスボード
CPU-68	CPU ボード
LE-76	LED ボード
MB-262	マザーボード
TR-56	トランスボード

2-5-2. BKS-R1210

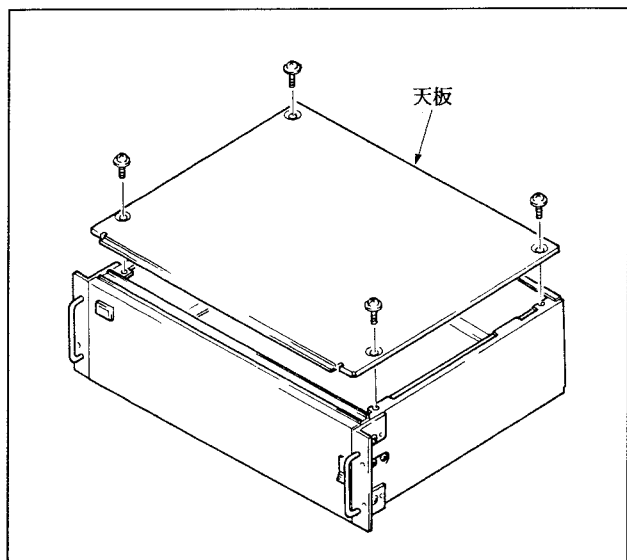
名 称	機 能
SW-354	スイッチボード

2-6. 基板配置図

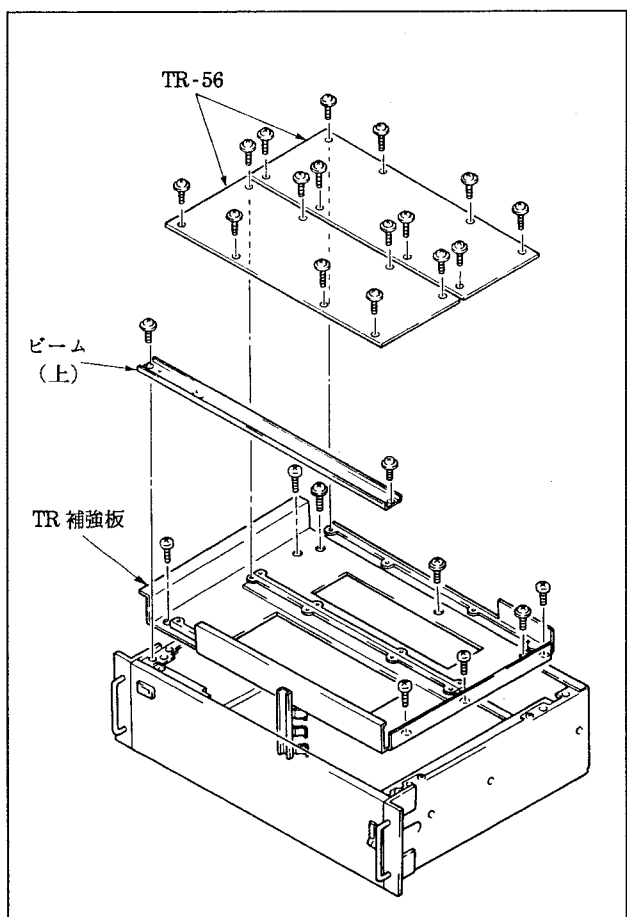


2-7. 電源の取り外し

(1) 天板を外します。

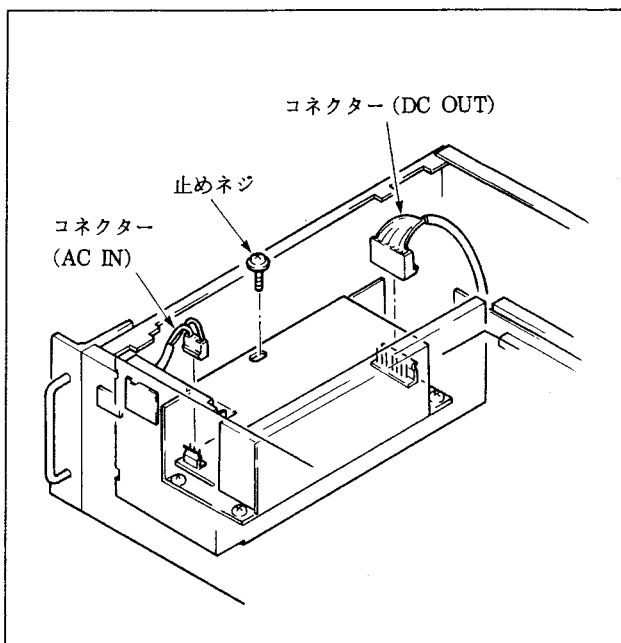


(2) TR-56 基板, ビーム (上), TR 補強板を外します。

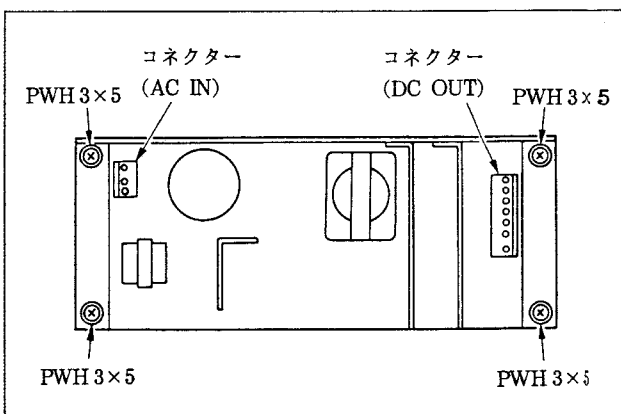


(3) 電源のコネクター (前後2ヶ所) を抜きます。

(4) シールドケースの止めネジを外すと, 上にぬけます。



(5) 電源を止めているネジをはずします。



2-8 サービス部品

1. 回路図, 分解図, 電気部品リスト中で△及び■で囲まれた部品は, 安全性を維持するために重要な部品です。従ってこれらの部品を交換する時には必ず指定の部品と交換して下さい。
2. パーツセンターから供給される部品は, 実際にセットに使用している部品と形状等が異なることが時々あります。これらは「部品の共通化」等によるものです。
3. 分解図, 電気部品リスト中 SP 欄が○で示されている部品は交換頻度が低い部品ですので, 在庫していないことがあり, 納期が長くなることがあります。

SECTION 2

SERVICE INFORMATION

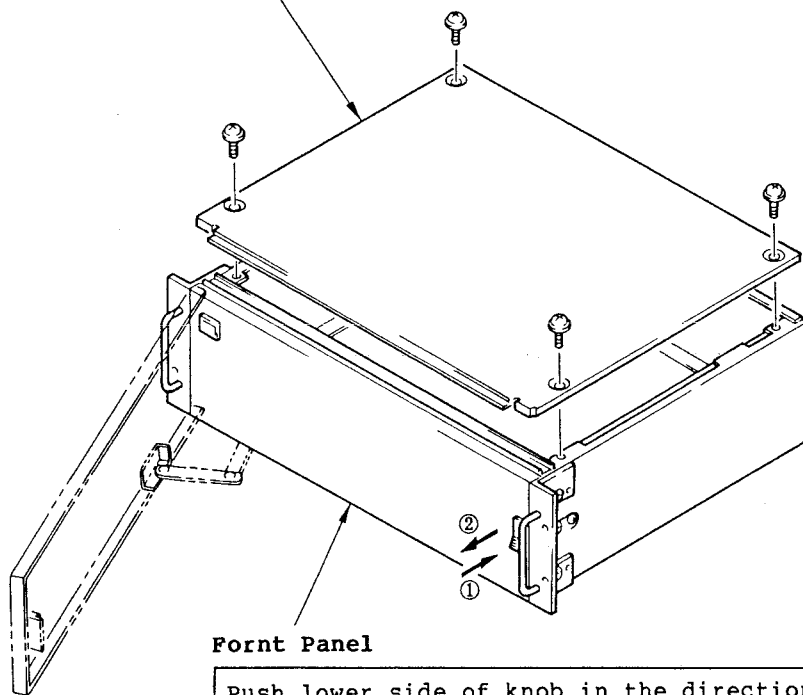
2-1. REMOVAL FROM THE CONSOLE

.Remove all connectors and slowly pull out the from the console.

2-2. OPENING/REMOVAL OF CABINET

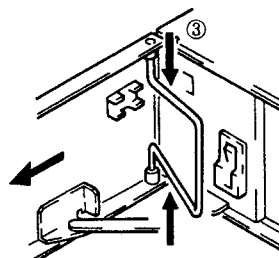
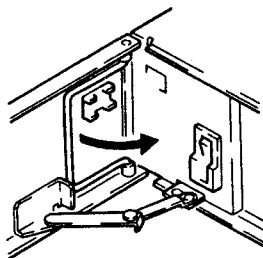
Upper Panel

Loosen the four fixing screws and remove the Upper.



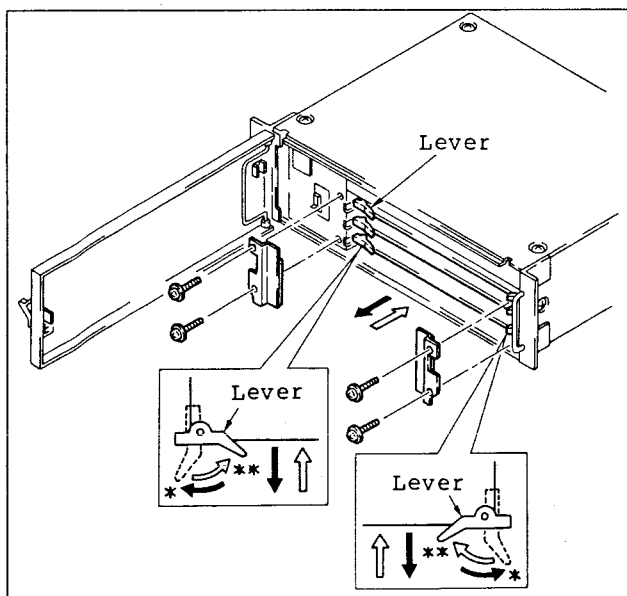
Front Panel

Push lower side of knob in the direction of arrow ①.
Move knob in the direction of arrow ②.
Then pull up the shaft of the hinge portion and push it in the direction of ③.
The front panel can be remove.



2-3. REMOVAL/INSTALL PROCEDURE

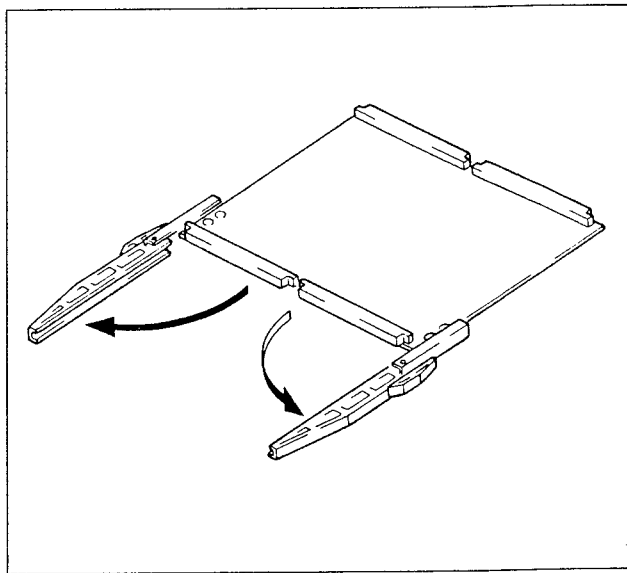
- .Pushing in the direction of the *, pull out by the lever. The card board can be removed.
- .Insert the board along with the lever in the direction of **, the card can be installed.



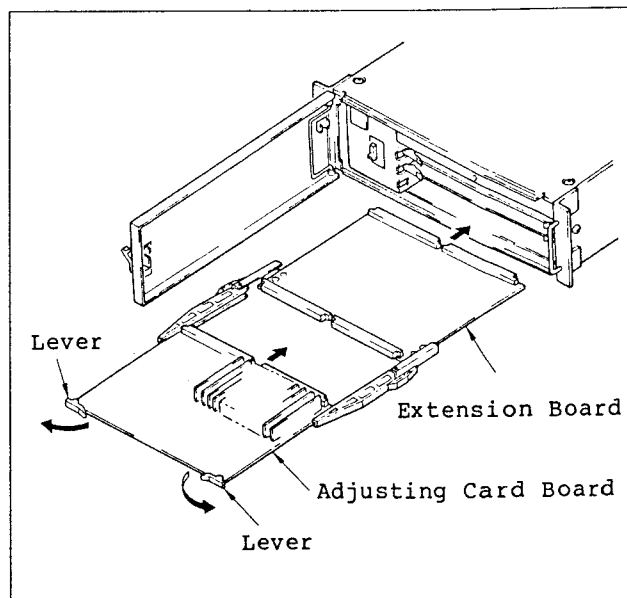
2-4. SERVICE

Adjusting card board (CPU-68 and ASW-17 board)

- (1) Open the rail of the extension board.



- (2) Pull out the lever out side and remove the board to be adjusted then attach the extension board.



2-5. CIRCUIT CONFIGURATION

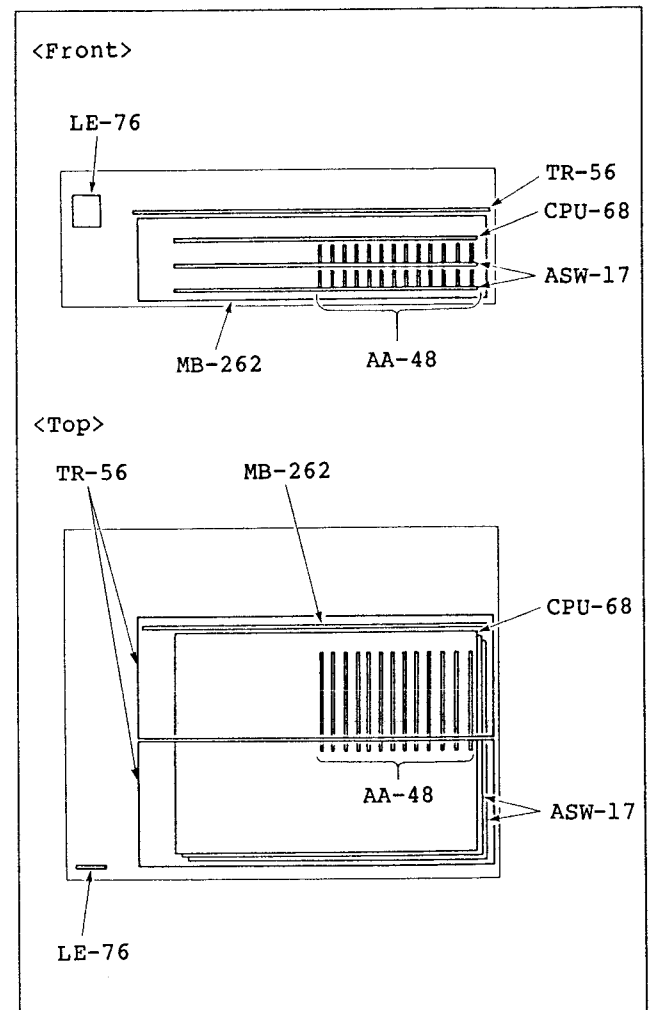
2-5-1. BVS-A1212

Board Name	Functions
AA-48	AUDIO AMPLIFIER BOARD
ASW-17	AUDIO MATRIX BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
MB-262	MOTHER BOARD
TR-56	TRANS BOARD

2-5-2. BKS-R1210

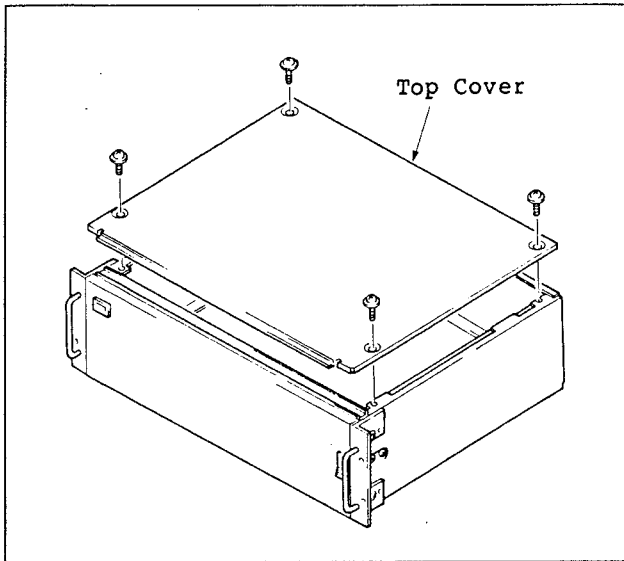
Board Name	Functions
SW-354	SWITCH BOARD

2-6. LAYOUT OF THE PRINT BOARD

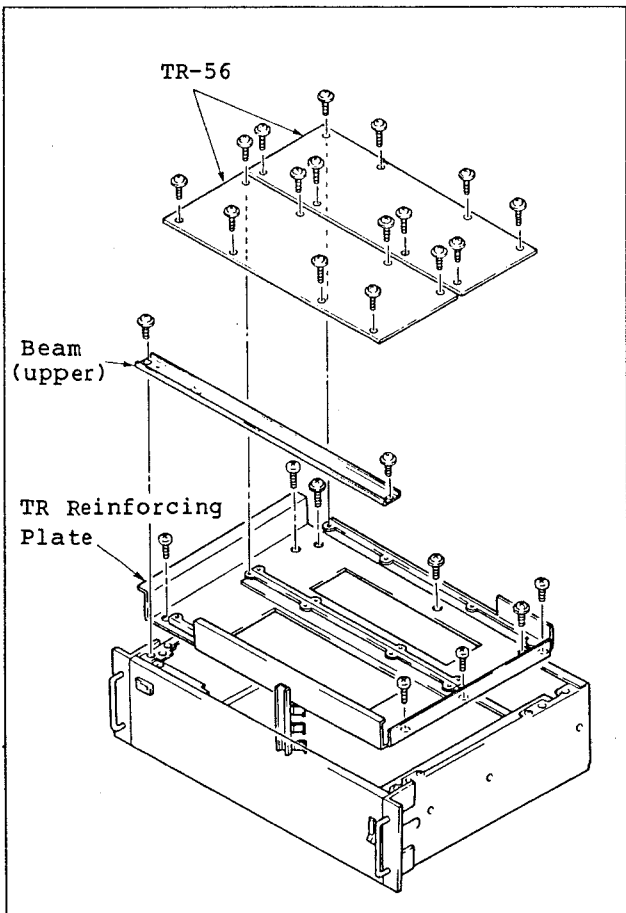


2-7. HOW TO REMOVE SWITCHING REGULATOR

(1) Remove the top cover.

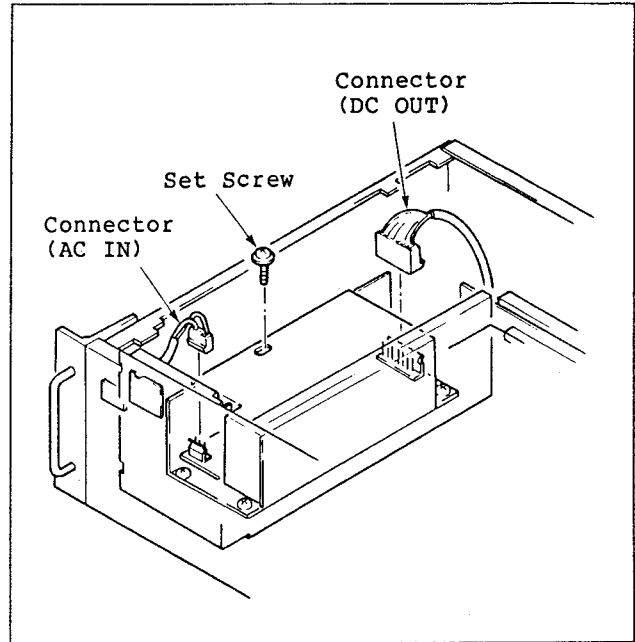


(2) Remove the TR-56 board, beam (upper), and the TR reinforcing plate.

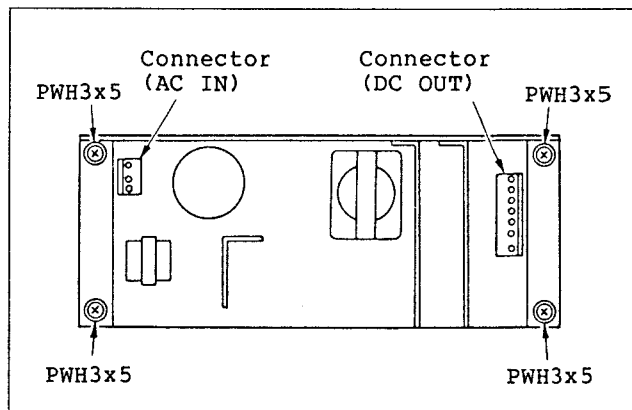


(3) Remove two connectors (front and back).

(4) Remove the screw of the shield case.




(5) Remove four screws tightened the switching regulator.



2-8. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning

Components identified by shading marked with  on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

This manual's exploded views and electrical spare parts list are indicating the part numbers of "the standardized genuine parts at present".

(3) Stock of Parts

Parts marked with "o" SP (supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with the "o" will be processed, but allow for additional delivery time.

第 3 章 テストモード

3-1. 起動方法

CPU-68 基板上の S1-1 を OPEN にして電源を立ち上げる, もしくは, S11 のリセットボタンを押すと, テストモードになります。

テスト項目は S1-2～6 を使って設定します。

3-2. 終了方法

CPU-68 基板上の S1-1 を CLOSE にして, S11 のリセットボタンを押すとテストモードは解除されます。

3-3. 手順

Step 1.

S1-1 を CLOSE にしてテスト項目入力待ち状態にします。

Step 2.

S1-2～6 を使って項目を設定します。

Step 3.

S1-1 を OPEN にして, そのテスト項目の内容を実行します。

(3-4 テストモード参照)



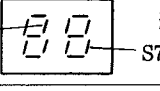
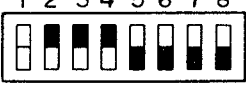
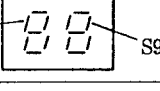
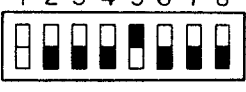
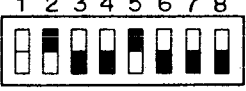
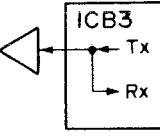

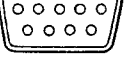
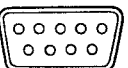
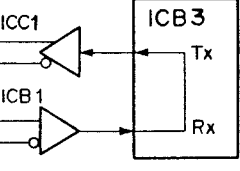

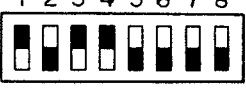
Step 4.

S1-1 を CLOSE にして, そのテスト項目を終了します。

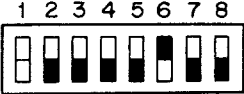

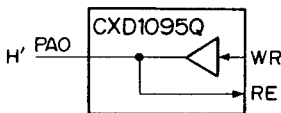
(Step 1. テスト項目の入力待ちの状態に戻ります)

3-4. テストモード

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内 容
0	 OPEN CLOSE	ND1 7セグメントLEDチェック 00→11→22→33→……→FF→ を繰り返します。
1	 OPEN CLOSE	BZ1 ブザー ON 注) JW2を ENA に設定して下さい。
2	 OPEN CLOSE	S1 チェック 結果を7セグメントLEDにHEX表示します。
3	 OPEN CLOSE	S2, 3 チェック 結果を7セグメントLEDにHEX表示します。
4	 OPEN CLOSE	S4 チェック 結果を7セグメントLEDにHEX表示します。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内 容
5		S5 チェック 結果を7セグメント LEDにHEX 表示します。
6		S6, 7 チェック  結果を7セグメント LEDにHEX 表示します。
7		S8, 9 チェック  結果を7セグメント LEDにHEX 表示します。
8		未定義
9		ICB3 UPD72001C LOCAL SELF テスト ICB3 UPD72001C と ICE4 UPD70320 間の制御バスの確認をします。  正常時 7セグメント LEDに“00”表示します。 NG時 7セグメント LEDに“FF”表示し、 制御バスの確認が必要です。
A		ICB3 UPD72001C ECHO LOOP テスト REMOTE 1 及び 2 と ICB3 UPD72001C 間のつながりの確認ができます。 REMOTE 1 からの入力をそのまま ECHO BACK しています。 REMOTE 1  REMOTE 2  
B		未定義
C		RAM WRITE/REEAD ICB6 RAM と ICE4 UPD70320 間の制御バスの確認をします。 正常時 7セグメント LED “00” に表示します。 NG時 7セグメント LED “FF” に表示し、制御バスの確認が 必要です。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内 容
D	<div><div>1 2 3 4 5 6 7 8</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>OPEN</div><div>CLOSE</div></div></div>	<p>BKS-R1210 ECHO BACK テスト (Xpt No. はわかりません) 7 セグメント LED にてボタン入力の確認ができます。</p> <p>7セグメント</p> <div><div><div>00</div></div></div> <p>RED ボタンを押した時 → <div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div> DON' T CARE</p> <p>GREEN ボタンを押した時 → <div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></p> <p>DON' T CARE → <div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div> CHANNEL ボタンを押した時</p> <div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div></div>
E	<div><div>1 2 3 4 5 6 7 8</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>OPEN</div><div>CLOSE</div></div></div>	未定義
F	<div><div>1 2 3 4 5 6 7 8</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>OPEN</div><div>CLOSE</div></div></div>	<p>REF VIDEO 入力及び ICG2 LM1881M の確認ができます。</p> <p>REF 入力 無 “00” REF 入力 有 FRAME パルス有 “1F” REF 入力 有 FRAME パルス無 “10” ⇒ ICG2 LM1881M7 番ピンの確認が必要です。</p>

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内 容																																																
10	 1 2 3 4 5 6 7 8 OPEN CLOSE	<p>S2 と S3 の組み合わせにより Xpt を切り換えます。 注) この時 BKS-R1210 からのコントロールはできません。 基本的には S2 が DESTINATION を指示し, S3 が SOURCE を指示します。</p> <p>S3 の設定値 (HEX) 1 2 3 4 5 6 7 8 9 A B C SOURCE 1 2 3 4 5 6 7 8 9 10 11 12</p> <table border="1"> <thead> <tr> <th></th> <th>DESTINATION</th> <th>S2 設定値 (HEX)</th> </tr> </thead> <tbody> <tr><td>↓</td><td>1</td><td>1</td></tr> <tr><td>↓</td><td>2</td><td>2</td></tr> <tr><td>↓</td><td>3</td><td>3</td></tr> <tr><td>↓</td><td>4</td><td>4</td></tr> <tr><td>↓</td><td>5</td><td>5</td></tr> <tr><td>↓</td><td>6</td><td>6</td></tr> <tr><td>↓</td><td>7</td><td>7</td></tr> <tr><td>↓</td><td>8</td><td>8</td></tr> <tr><td>↓</td><td>9</td><td>9</td></tr> <tr><td>↓</td><td>10</td><td>A</td></tr> <tr><td>↓</td><td>11</td><td>B</td></tr> <tr><td>↓</td><td>12</td><td>C</td></tr> <tr><td>↓</td><td>MONITOR</td><td></td></tr> <tr><td>↓</td><td>D</td><td>D</td></tr> <tr><td>↓</td><td>C</td><td>O</td></tr> </tbody> </table> <p>S2 が “E” “F” の時は DESTINATION 1～12 と MONITOR の DESTINATION 側を一斉に S3 の設定値に切り換えます。 S3=0, D, E, F の時は, 約1秒おきに 1→2→3→……→11→12→1 と SOURCE を切り換えます。</p>		DESTINATION	S2 設定値 (HEX)	↓	1	1	↓	2	2	↓	3	3	↓	4	4	↓	5	5	↓	6	6	↓	7	7	↓	8	8	↓	9	9	↓	10	A	↓	11	B	↓	12	C	↓	MONITOR		↓	D	D	↓	C	O
	DESTINATION	S2 設定値 (HEX)																																																
↓	1	1																																																
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↓	3	3																																																
↓	4	4																																																
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↓	11	B																																																
↓	12	C																																																
↓	MONITOR																																																	
↓	D	D																																																
↓	C	O																																																
11	 1 2 3 4 5 6 7 8 OPEN CLOSE	<p>MATRIX 1 (CS1 側) の CXD1095Q のポート出力確認 PA 0 から PE 4 まで, 約1秒おきに HIGH LEVEL にすると同時に, READ して確認します。</p>  <p>7-SEG LED には今, 出力しているポート名を表示します。</p> <p>(例) PA1 A1</p> <p>入出力が異なっていればそのポートにて終了し, ブザーを鳴らします。 この時は CXD1095Q のポートを確認する必要があります。 正常終了時は, — となります。</p>																																																

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内 容																					
12	<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>OPEN CLOSE</div></div> <td>MATRIX 2 (CS2 側) の CXD1095Q を確認します。 項目 11 と同じ</td>	MATRIX 2 (CS2 側) の CXD1095Q を確認します。 項目 11 と同じ																					
13	<div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div></div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>OPEN CLOSE</div></div> <td><p>VISTB パルス出力テスト</p><p>ICB7 12 番ピンにて VISTB パルス出力を確認できます。</p><table><tr><th></th><th>S2</th><th>7-SEG 表示</th><th>出力形式</th></tr><tr><td>REF 入力無</td><td>—</td><td>“d”</td><td>16~18 msec インターバル</td></tr><tr><td rowspan="4">REF 入力有</td><td>0</td><td>“d”</td><td>16~18 msec インターバル</td></tr><tr><td>1</td><td>“F”</td><td>毎 Field</td></tr><tr><td>2</td><td>“F1”</td><td>毎 ODD Field</td></tr><tr><td>3</td><td>“F2”</td><td>毎 EVEN Field</td></tr></table></td>	<p>VISTB パルス出力テスト</p> <p>ICB7 12 番ピンにて VISTB パルス出力を確認できます。</p> <table><tr><th></th><th>S2</th><th>7-SEG 表示</th><th>出力形式</th></tr><tr><td>REF 入力無</td><td>—</td><td>“d”</td><td>16~18 msec インターバル</td></tr><tr><td rowspan="4">REF 入力有</td><td>0</td><td>“d”</td><td>16~18 msec インターバル</td></tr><tr><td>1</td><td>“F”</td><td>毎 Field</td></tr><tr><td>2</td><td>“F1”</td><td>毎 ODD Field</td></tr><tr><td>3</td><td>“F2”</td><td>毎 EVEN Field</td></tr></table>		S2	7-SEG 表示	出力形式	REF 入力無	—	“d”	16~18 msec インターバル	REF 入力有	0	“d”	16~18 msec インターバル	1	“F”	毎 Field	2	“F1”	毎 ODD Field	3	“F2”	毎 EVEN Field
	S2	7-SEG 表示	出力形式																				
REF 入力無	—	“d”	16~18 msec インターバル																				
REF 入力有	0	“d”	16~18 msec インターバル																				
	1	“F”	毎 Field																				
	2	“F1”	毎 ODD Field																				
	3	“F2”	毎 EVEN Field																				

SECTION 3 TEST MODE

3-1. HOW TO MOVE

When SW1-1 on the CPU-68 board is turned OPEN the set is on, or RESET button of SW11 is push, the TEST MODE is active.

The TEST MODE is set by using from SW1-2 to SW1-6.

3-2. HOW TO CLOSE

Cancel the TEST MODE setting to CLOSE SW1-1 and RESET button of SW11 is push on the CPU-68 board.

3-3. ARRANGEMENTS

step1

SW1-1 is set to CLOSE, and put the unit into performing TEST items.

step2

Set the items using from SW1-2 to SW1-6.

step3

Set the SW1-1 to OPEN, perform the contents of the TEST items.





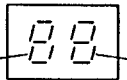

(Refer to function of 3-4 TEST MODE for details).

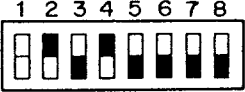
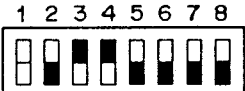
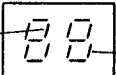

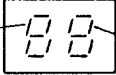

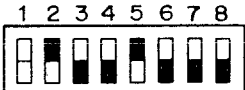
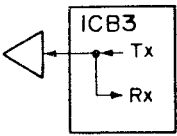
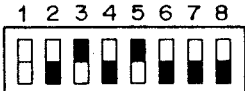
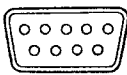
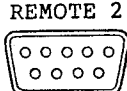
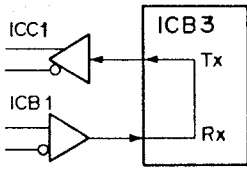

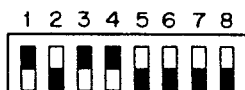
step4

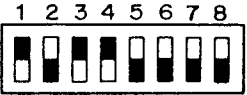

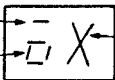
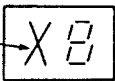
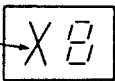
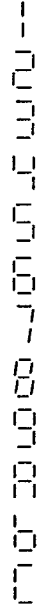

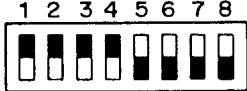
Set the SW1-1 to CLOSE, finish the TEST items.

(Return the state of step1.)

3-4. TEST MODE

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
0	 OPEN CLOSE	Check the ND1 7-SEGMENT LED Repeat the 00→11→22→33→.....→FF→00.
1	 OPEN CLOSE	BZ1 buzzer ON note) Set the JW2 to ENA.
2	 OPEN CLOSE	Check the SW1 The results is displayed HEX in 7-SEG LED.
3	 OPEN CLOSE	Check the SW2 and 3.  The results is displayed HEX in 7-SEG LED.
4	 OPEN CLOSE	Check the SW4 The results is displayed HEX in 7-SEG LED.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
5	 OPEN CLOSE	Check the SW5 The results is displayed HEX in 7-SEG LED.
6	 OPEN CLOSE	Check the SW6 and 7. S6  S7 The results is displayed HEX in 7-SEG LED.
7	 OPEN CLOSE	Check the SW8 and 9. S8  S9 The results is displayed HEX in 7-SEG LED.
8	 OPEN CLOSE	Undefinition
9	 OPEN CLOSE	ICB3 UPD72001C LOCAL SELF TEST Check the control bus between ICB3 UPD72001C and ICE4 UPD70320.  OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.
A	 OPEN CLOSE	ICB3 UPD72001C ECHO LOOP TEST Check the relations between REMOTE 1 and 2, and ICB3 UPD72001C and ECHO BACK inputs from TEMOTE 1 as it is. REMOTE 1  REMOTE 2  
B	 OPEN CLOSE	Undifinition
C	 OPEN CLOSE	RAM WRITE/READ Check the control bus between ICB6 RAM and ICE4 UPD70320 OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
D		<p>BKS-R1210 ECHO TEST (No change X'pt NO.) Check the buttons inputs in 7-SEGMENT LED.</p> <p>7-SEG</p>  <p>When push the RED button →  DON'T CARE</p> <p>When push the GREEN button →  DON'T CARE</p> <p>When push the CHANNEL button → </p> 
E		Undifinition
F		<p>Check the REF VIDEO and the ICG2 LM1881M.</p> <p>REF input (disable) "00" REF input (enable) FRAME pluse enable "1F" REF input (enable) FRAME pluse disable "10"</p> <p>⇒ Need to check the seventh pin of ICG2 LM1881M.</p>

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents																																																																																																																																																																																																																																																																														
10	<div><div>12345678</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div><div>OPEN CLOSE</div></div>	<p>Change the Xpt by combination SW2 and 3. note) Disable to control from BKS-R1210. Fundamentally, SW2 display the destination, and SW3 display the source.</p> <p>S3</p> <table><tr><td>(HEX)</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>A</td><td>B</td><td>C</td><td></td><td></td></tr><tr><td>SOURCE</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td></td><td></td></tr><tr><td></td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>↓</td><td>DESTI- NATION</td><td>S2 (HEX)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 1</td><td>1</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 2</td><td>2</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 3</td><td>3</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 4</td><td>4</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 5</td><td>5</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 6</td><td>6</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 7</td><td>7</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 8</td><td>8</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 9</td><td>9</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 10</td><td>A</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 11</td><td>B</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ 12</td><td>C</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→ MONITOR</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>D</td><td>D</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>C</td><td>O</td></tr></table> <p>When SW2 is set to E and F, change the side destination of monitor and from destination 1 to 12 to setting number of SW3 all together. When SW3 equal 0, D, E, F, SOURCE is changed about every other second 1→2→3→.....→11→12→1.</p>	(HEX)	1	2	3	4	5	6	7	8	9	A	B	C			SOURCE	1	2	3	4	5	6	7	8	9	10	11	12				↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	DESTI- NATION	S2 (HEX)														→ 1	1														→ 2	2														→ 3	3														→ 4	4														→ 5	5														→ 6	6														→ 7	7														→ 8	8														→ 9	9														→ 10	A														→ 11	B														→ 12	C														→ MONITOR															D	D														C	O
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11	<div><div>12345678</div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div><div>OPEN CLOSE</div></div>	<p>Check the port outputs CXD1095Q of MATRIX 1 (the side of CS1) Set to HIGH LEVEL about every other second, at the same time, check READ from PA0 to PE4.</p> <div><div>H' PA0</div><div><div>CXD1095Q</div><div><div></div><div></div><div></div></div><div>WR</div><div>RE</div></div></div> <p>Display the port name of output in 7-SEG</p> <div><div>(Exm.) PA1</div><div>A1</div></div> <p>If input and output are different, finished the port. Need to check the port of CXD1095Q. When the port out is finished, displayed <div>--</div>.</p>																																																																																																																																																																																																																																																																														

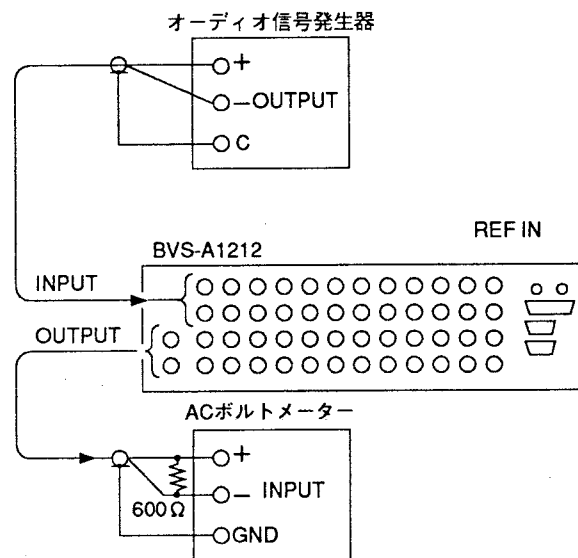
Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents																					
12	<div><div>1 2 3 4 5 6 7 8</div><div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>OPEN CLOSE</div></div></div>	<p>Check the CXD1095Q of MATRIX2 (the side of CS2).</p> <p>The same as Item 11.</p>																					
13	<div><div>1 2 3 4 5 6 7 8</div><div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>OPEN CLOSE</div></div></div>	<p>VISTB PULSE output test</p> <p>Enable to check VISTB PLUSE output in ICB7-12 pin.</p> <table><tr><td></td><td>S2</td><td>7-SEG displayed</td><td>Output form</td></tr><tr><td rowspan="2">REF input (disable)</td><td>—</td><td>“d”</td><td>16 msec interval</td></tr><tr><td>0</td><td>“d”</td><td>16 msec interval</td></tr><tr><td rowspan="3">REF input (enable)</td><td>1</td><td>“F”</td><td>every field</td></tr><tr><td>2</td><td>“F1”</td><td>every ODD field</td></tr><tr><td>3</td><td>“F2”</td><td>every EVEN field</td></tr></table>		S2	7-SEG displayed	Output form	REF input (disable)	—	“d”	16 msec interval	0	“d”	16 msec interval	REF input (enable)	1	“F”	every field	2	“F1”	every ODD field	3	“F2”	every EVEN field
	S2	7-SEG displayed	Output form																				
REF input (disable)	—	“d”	16 msec interval																				
	0	“d”	16 msec interval																				
REF input (enable)	1	“F”	every field																				
	2	“F1”	every ODD field																				
	3	“F2”	every EVEN field																				

第4章 電気調整要項

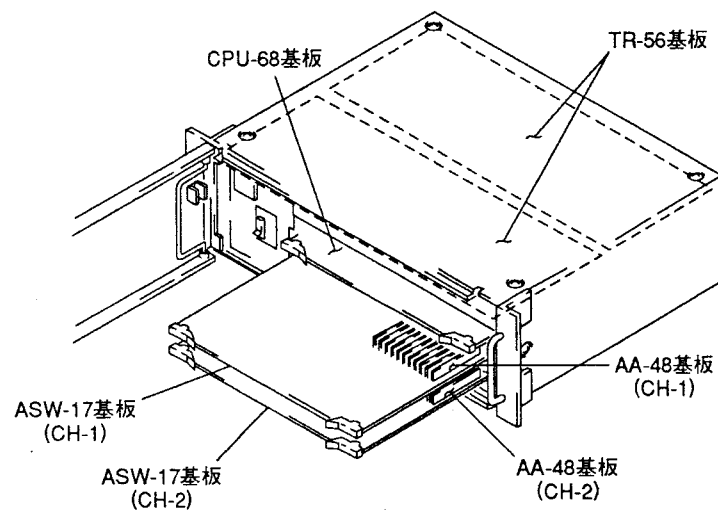
[必要な機器]

- ・オーディオ信号発生器 : テクトロニクス5010または同等品
- ・オーディオレベルメータ: テクトロニクスAA501A(オーディオアナライザー)または同等品
- ・延長基板: ビデオルーティングスイッチャーBVS-V1212に付属

[接続]



[調整基板配置図]

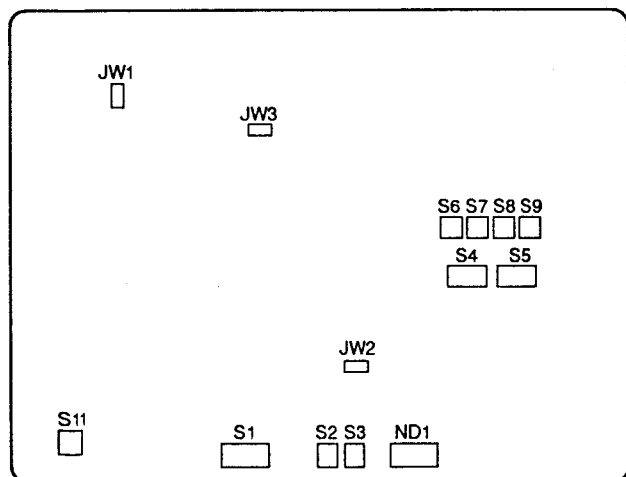


※調整の際には延長基板を使用してください。

[入出力チャンネルの設定]

調整にあたり入出力チャンネルの切り換えとそのため
のスイッチの設定、操作が必要となります。
出力レベル調整の場合には、各出力とも同一の入力を選
択して全出力チャンネルの調整を行います。
入力部のCMR調整の場合には入力チャンネルを切り換え
て調整を行います。

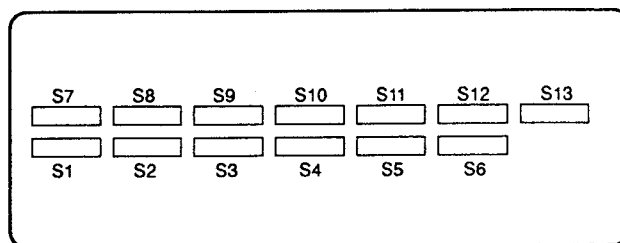
- (1) CPU-68基板の前面スイッチS1-1をOPENにします。
(テストモード設定)
- (2) 電源をONします。(テストモード起動)
注)すでに電源がONになっている場合は、リセットボ
タンS11を押してリセットします。
- (3) S1-1をCLOSEにします。(テスト条件設定待ち)
- (4) S1-6をOPENにします。(クロスポイントの設定モード)
- (5) S2をF(又はE)に設定します。(OUTPUT1~12の
SOURCEをS3で設定するモード)
- (6) S1-1をOPENにします。(テスト条件の取り込み)
- (7) S3を1に設定します。(SOURCE1を選択)
この状態でOUTPUT1~12にはSOURCE1が選択されて
おり、入力1に信号を供給すれば出力チャンネル1~
12の各出力レベル調整ができます。
- (8) S2を0に設定します。(MONITOR列のSOURCEをS3で
設定するモード)
この時S3を1に設定し、MONITOR列の出力レベル調
整を行います。
(MONITOR OUTPUTにはSOURCE1が選択されていま
す)
- (9) S2をF(又はE)に設定します。
OUTPUT1を測定出力とします。
入力1~12を1チャンネルずつ指定して、CMR調整を
行います。
- (10) 調整が完了したら、各設定スイッチを元に戻します。
一度電源を切るか、又はリセットスイッチS11を押し
ます。



CPU-68基板 (部品面)

・TR-56基板

S1~S13を全て600Ωに切り換えます。
(工場出荷時：全て600Ωに設定されています。)



TR-56基板 (部品面)

ASW-21基板の入力インピーダンススイッチ(600Ω
ON/OFFスイッチ；S1~12)はONにします。

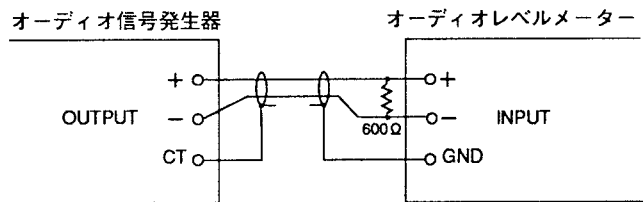
4-1. レベル調整

[調整前の設定]

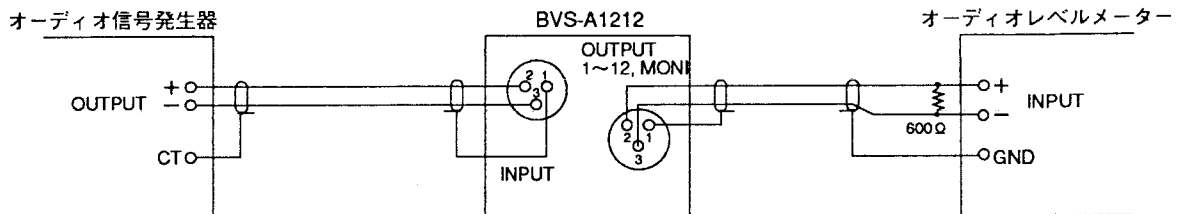
・信号発生器の設定

オーディオ信号発生器を
出力インピーダンス ——— 600 Ω
FLOATING/GND ——— FLOATING
周波数 ——— 1kHz

に設定して下図のように接続し、オーディオレベルメーターの読みが+4dBm(1.228V)になるように、オーディオ信号発生器の出力を設定します。



[接続]



調整時の状態	規格	調整箇所
<ul style="list-style-type: none">オーディオ信号発生器の出力をCH1のINPUT1に、オーディオレベルメーターをCH1のOUTPUT1に上図のように接続します。CPU-68基板のS2をFにS3を1に設定します。	・オーディオレベルメーターのレベルが+4±0.1dBm(1.228±0.014V)になるようにします。	● RV1/AA-48基板 (CH1側)

S2、S3の設定値を変えずにオーディオレベルメータをOUTPUT2~12.MONIに接続して、各々のボリュームで同様の調整を行って下さい。



AA-48基板 (A Side)

OUTPUT	ボリューム
2	RV1/AA-48-2
3	RV1/AA-48-3
4	RV1/AA-48-4
5	RV1/AA-48-5
6	RV1/AA-48-6
7	RV1/AA-48-7
8	RV1/AA-48-8
9	RV1/AA-48-9
10	RV1/AA-48-10
11	RV1/AA-48-11
12	RV1/AA-48-12
MONI	RV1/AA-48-MONI

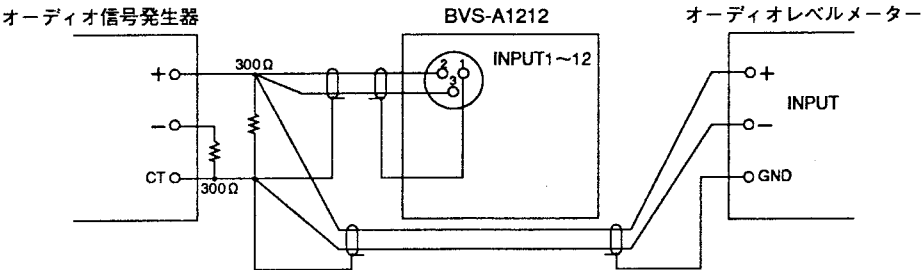
※CH2の調整も同様に行ってください。

4-2. CMR (Common Mode Rejection)調整

[調整前の設定]

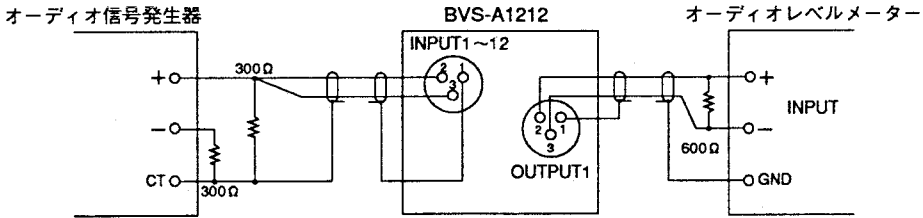
・信号発生器の設定

オーディオ信号発生器の出力を
出力インピーダンス ——— 600 Ω
FLOATING/GND ——— FLOATING
周波数 ——— 60Hz
に設定して下さい。



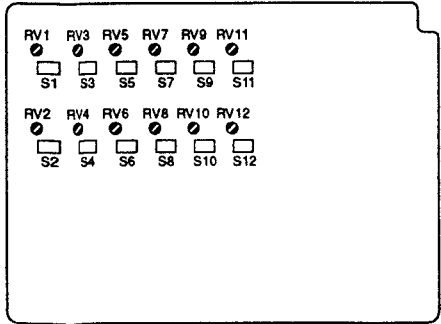
図のように接続し、オーディオレベルメーターの読みが+15dBmになるように、出力レベルを設定します。

[接続]



調整時の状態	規格	調整箇所
<ul style="list-style-type: none">・CH1のINPUT1にオーディオ信号発生器、CH1のOUTPUT1にオーディオレベルメーターを上図のように接続します。・CPU-68基板のS2をFに、S3を1に設定します。	<ul style="list-style-type: none">・オーディオレベルメーターの指示値を最小にします。 AUDIO IN : 60Hz + 15dBm AUDIO OUT : -75dBm以下	● RV1/ASW-17 (CH-1側)

信号発生器をINPUT2～12に接続し、クロスポイント(S3の指示値)を切り換えながら、同様の調整を行って下さい。チャンネルに応じて各々のボリュームで調整して下さい。



ASW-17基板 (部品面)

INPUT	ボリューム
2	RV2
3	RV3
4	RV4
5	RV5
6	RV6
7	RV7
8	RV8
9	RV9
10	RV10
11	RV11
12	RV12

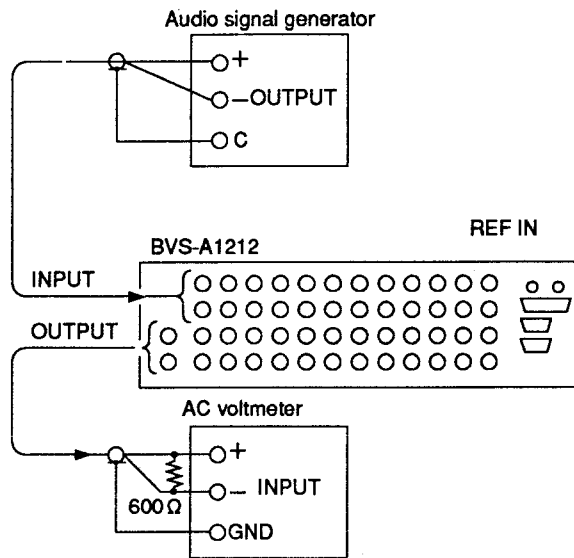
※CH2の調整も同様に行ってください。

SECTION 4 ELECTRICAL ALIGNMENT

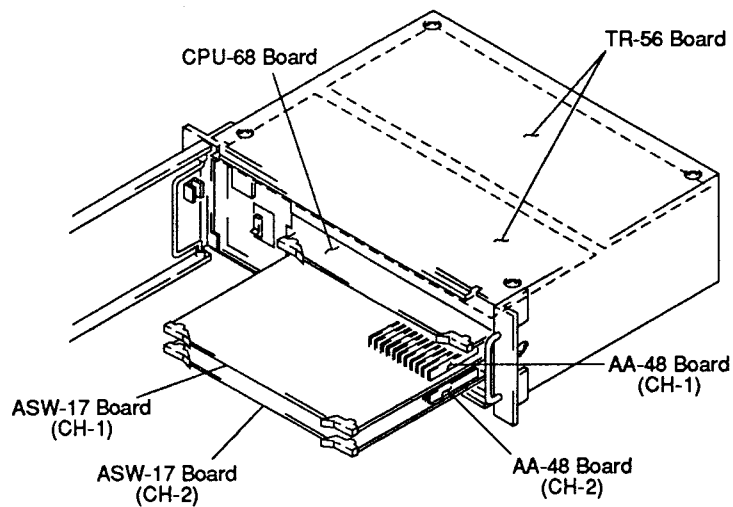
[Required equipment]

- Audio signal generator: Tectronix AA501A (audio analyzer) or equivalent
- Audio level meter: Tectronix 1410 or the equivalent
- Extension board: Video routine switcher. Attached to BVS-V1212.

[Connections]



[Layout of the print board]



※ Use an extension board for adjustment.

[Setting of the Input / Output Channel]

The input / output channel need be switched before adjustment. This in turn requires setting and operation of switches.

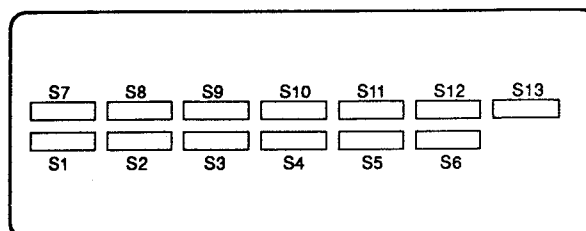
For adjustment of the output level, select the same input for all outputa and adjust all output channels.

For adjustment of CMR of the input, select the input channel.

- 1) Open the switch S1-1 in the front of CPU-68 board.
(Setting of the test mode)
- 2) Turn ON power supply. (Test mode start)
Note: When power supply is already ON, press the reset button switch for resetting.
- 3) Close S1-1. (Wait for test condition setting)
- 4) Open S1-6. (Cross point setting mode)
- 5) Set S2 to F (or E). (Mode to set source of Outputs 1-12 with S3)
- 6) Open S1-1. (Loading of test conditions)
- 7) Set S3 to 1. (Source 1 selected)
Source 1 is set for Outputs 1-12. Supply of signal to Input 1 causes adjustment of output levels for output channels 1-12.
- 8) Set S2 to 0. (Mode to set the source of monitor array with S3)
In this case, set S3 to 1 to adjust the output level of monitor array.
- 9) Set F2 to F (or E). Use Output 1 as a measuring output.
Carry out CMR adjustment while designating inputs 1-12 for each channel.
- 10) Upon completion of adjustment, reset setting switches. Turn OFF power supply of press the reset button S11.

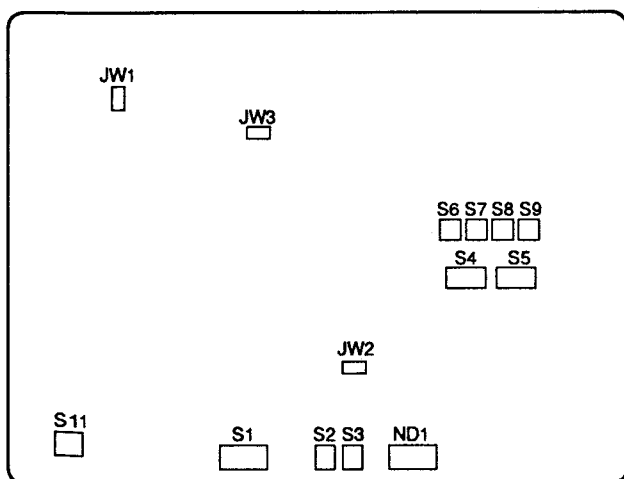
• TR-56 Board

S1 through S13; the switches changed 600Ω (Setting before shipment; set to all 600Ω)



TR-56 Board (Component Side)

After the RED button on the BKS-R1210, select the 1-12 buttons. The INPUT of the buttons is output to all OUTPUT 1-12 and the MONI connectors.



CPU-68 Board (Component Side)

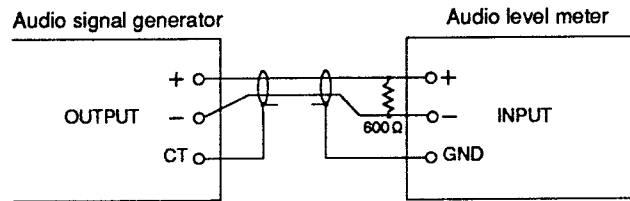
4-1. LEVEL ADJUSTMENT

[Setting before adjustment]

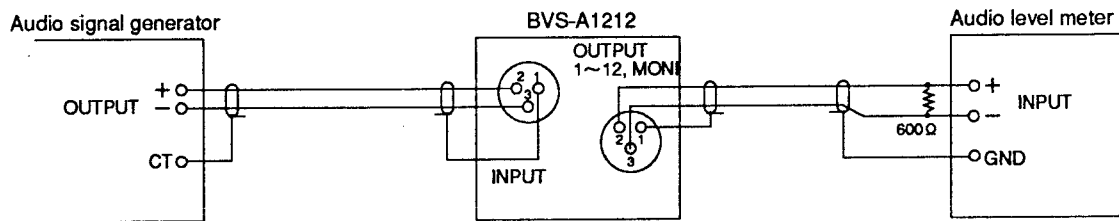
• Setting of the audio signal generator

Set the audio signal generator as follows:

Output impedance ——— 600Ω
 Floating / GND ——— FLOATING
 Frequency ——— 1kHz



[Connections]



Preparations	Specifications	Adjustments
<ul style="list-style-type: none"> Connect the output of the audio signal generator to Input 1 of CH1 and the audio level meter to Output 1 of CH1, as shown above. Set S2 of CPU-68 board to F and S3 to 1. 	<ul style="list-style-type: none"> Adjust so that the audio level meter reads the level of $+4 \pm 0.1\text{dBm}$ ($1.228 \pm 0.014\text{V}$). 	<ul style="list-style-type: none"> RV1 / AA-48 board (CH1 side)

Connect the audio level meter to Output 2-12, MONI without changing setting of S2 and S3 and carry out similar adjustment with each VR.



AA-48 Board (A Side)

OUTPUT	Volume
2	RV1 / AA-48-2
3	RV1 / AA-48-3
4	RV1 / AA-48-4
5	RV1 / AA-48-5
6	RV1 / AA-48-6
7	RV1 / AA-48-7
8	RV1 / AA-48-8
9	RV1 / AA-48-9
10	RV1 / AA-48-10
11	RV1 / AA-48-11
12	RV1 / AA-48-12
MONI	RV1 / AA-48-MONI

※ Carry out adjustment of CH2 in the same

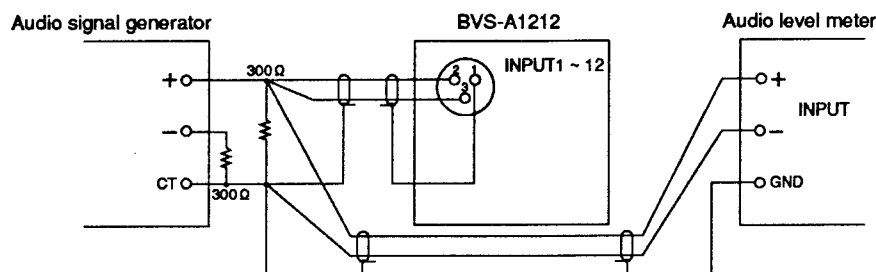
4-2. CMR (COMMON MODE REJECTION) ADJUSTMENT

[Setting before adjustment]

• Setting of the audio signal generator

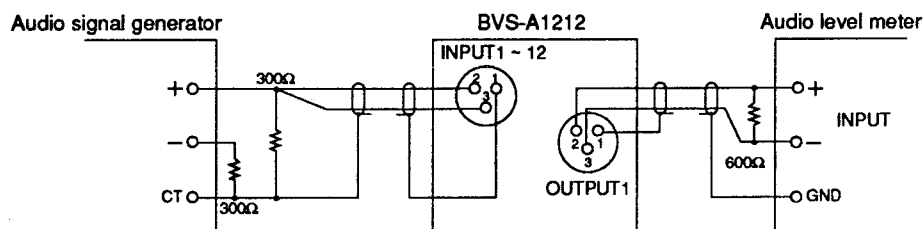
Set the audio signal generator as follows:

Output impedance ——— 600Ω
 Floating / GND ——— FLOATING
 Frequency ——— 60Hz



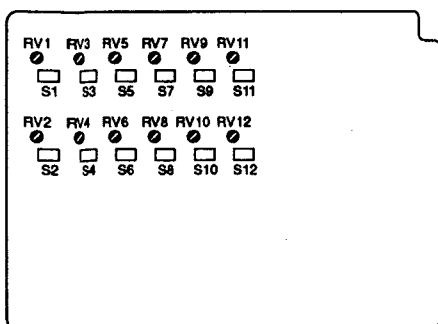
Connect as shown above and set the audio signal generator output so that the audio level meter reads +15dBm.

[Connections]



Preparations	Specifications	Adjustments
<ul style="list-style-type: none"> Connect the output of the audio signal generator to Input 1 of CH1 and the audio level meter to Output 1 of CH1, as shown above. Connect S2 of CPU-68 board to F and S3 to 1. 	<ul style="list-style-type: none"> Set the reading of audio level meter to monimum. AUDIO IN : 60Hz + 15dBm AUDIO OUT : - 75dBm 	⚙ RV1 / ASW-17 board (CH1 side)

Connect the signal generator to INPUT2-12 and carry out similar adjustment while changing the cross point (reading of S3). Adjust each VR according to the channel.



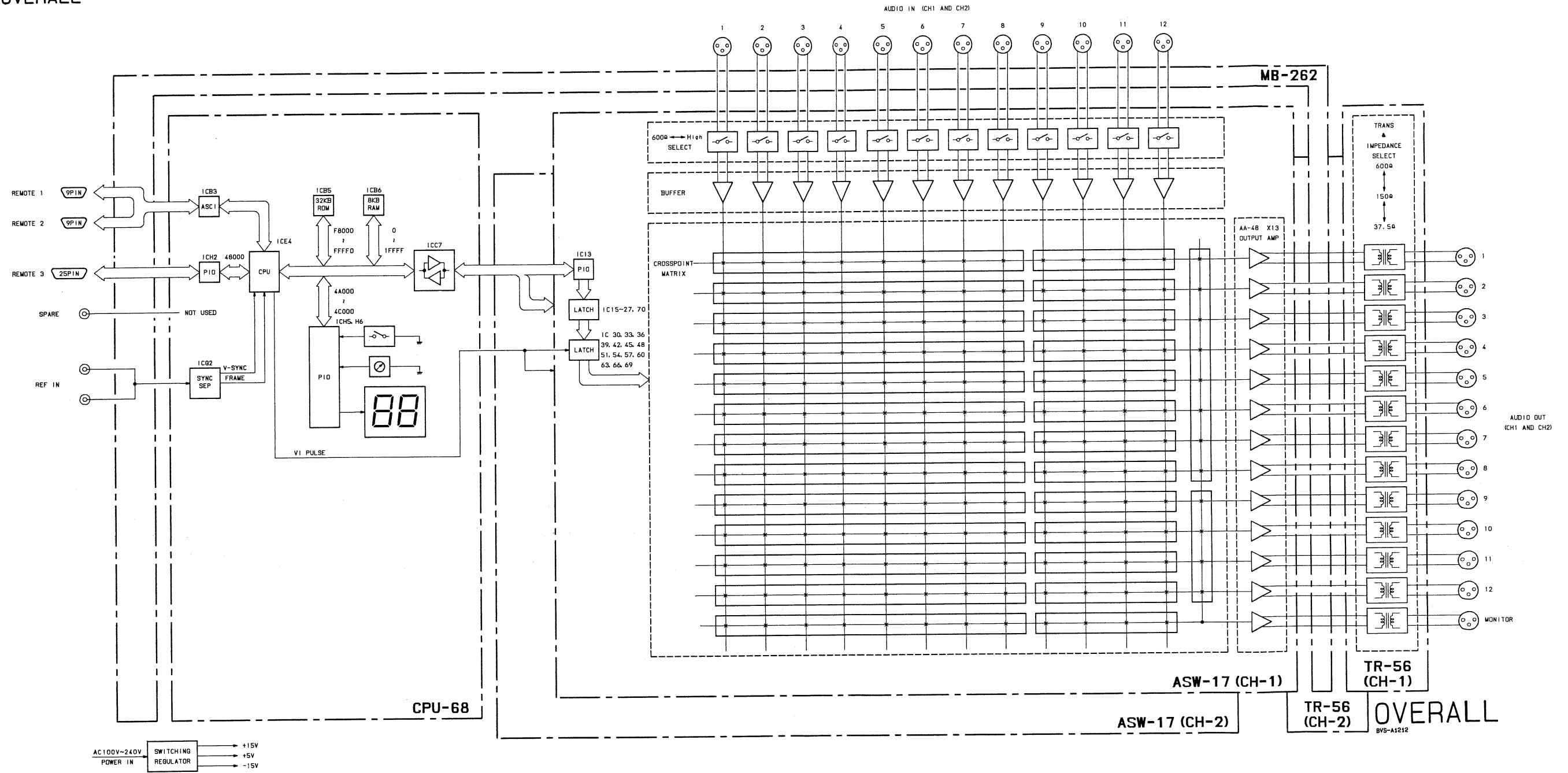
ASW-17Board (Component Side)

INPUT	Volume
2	RV2
3	RV3
4	RV4
5	RV5
6	RV6
7	RV7
8	RV8
9	RV9
10	RV10
11	RV11
12	RV12

※ Carry out adjustment of CH2 in the same

SECTION 5 BLOCK DIAGRAM

OVERALL



SECTION 6 SEMICONDUCTOR ELECTRODES

ここに記載されている IC, トランジスタ, ダイオードは, それぞれの機能を等価的に表わしたものです。したがって互換性を表わすものではありません。(互換性のない型名が併記されている事もあります。) 部品の交換をする時は, SPARE PARTS の章を参照して下さい。

ICs, transistors and diodes whose functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

IC PAGE

AM26LS30PC 6-1
AM26LS32PC 6-1

CXD1095Q 6-2
CXK5864P-10 6-2

DG508ACJ 6-3

LM1881M 6-3

MBM27C256A-20CZ .. 6-3

NE5534P 6-3

NJM4565MD 6-4

SN74HC00NS 6-4

SN74HC04NS 6-4

SN74HC138NS 6-4

SN74HC139NS 6-4

SN74HC245NS 6-4

SN74HC393NS 6-4

SN74HC4514NT 6-5

SN74HC541NS 6-5

SN74HC75NS 6-5

SN74HCU04NS 6-4

TC74HC123AF 6-5

TC74HC123F 6-5

TL7705CP-B 6-5

uPD70320L-8 6-6

uPD72001C 6-7

TRANSISTOR PAGE

2SA812 6-8

2SB1115A 6-8

2SC1623 6-8

2SC2785-F 6-8

2SC3545 6-8

2SD1615A 6-8

FA1F4N 6-8

FA1L4M 6-8

FN1F4N 6-8

DIODE PAGE

1S2835 6-8

1SS119 6-8

1SS123 6-8

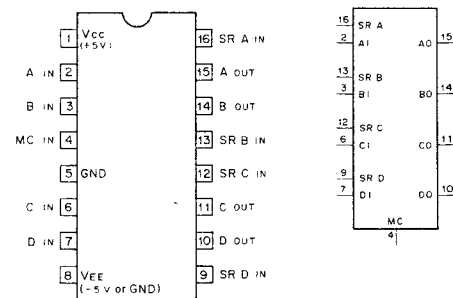
GL-6R202 6-8

LN35BP 6-8

TLV123 6-8

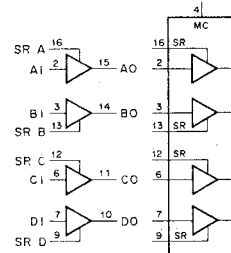
IC

AM26LS30PC (ADVANCED MICRO DEVICES)
LINE DRIVER
— TOP VIEW —

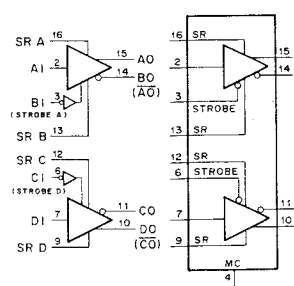


MC: MODE CONTROL
SR: SLEW RATE CONTROL

MC = 1



MC = 0

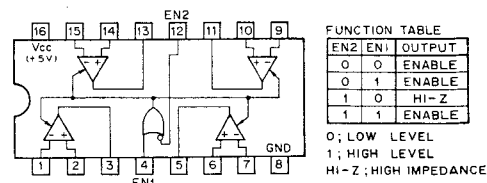


INPUTS	OUTPUTS
MC A TO D	A TO D
1 0 0	0
1 1 1	1

0: LOW LEVEL X: DON'T CARE
1: HIGH LEVEL HI-Z: HIGH IMPEDANCE

INPUTS	OUTPUTS
MC STROBE A & D	A & D B & C
0 0 0 0	0 1
0 0 1 1	0
0 1 X	HI-Z HI-Z

AM26LS32PC (ADVANCED MICRO DEVICES)
HIGH SPEED DIFFERENTIAL LINE RECEIVER
— TOP VIEW —



EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

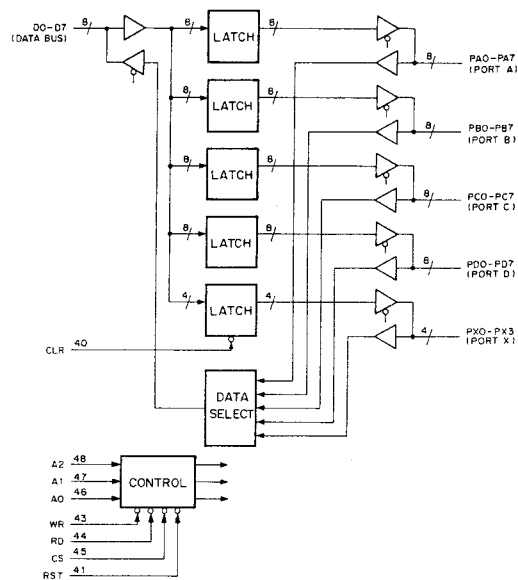
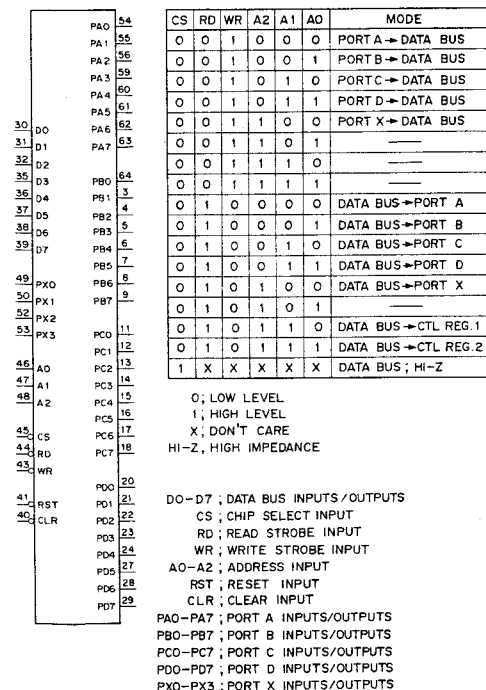
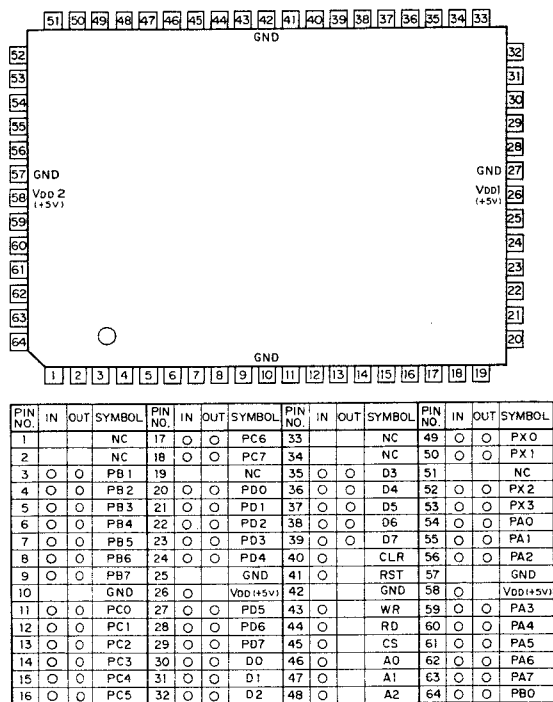
0: LOW LEVEL
1: HIGH LEVEL
HI-Z: HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

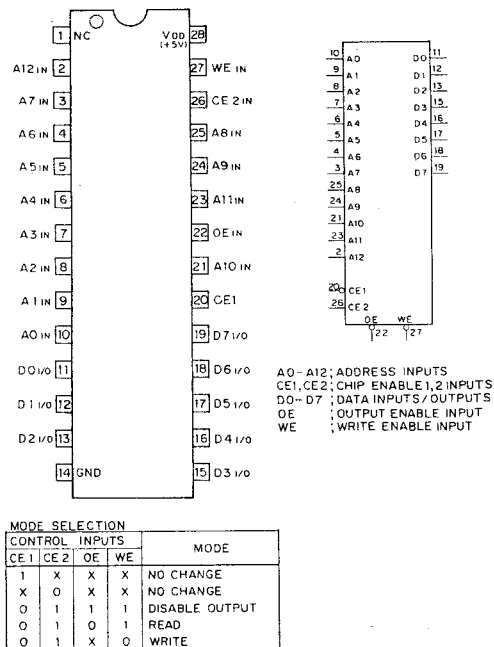
等価回路は IC メーカーの Data Book に従いました。

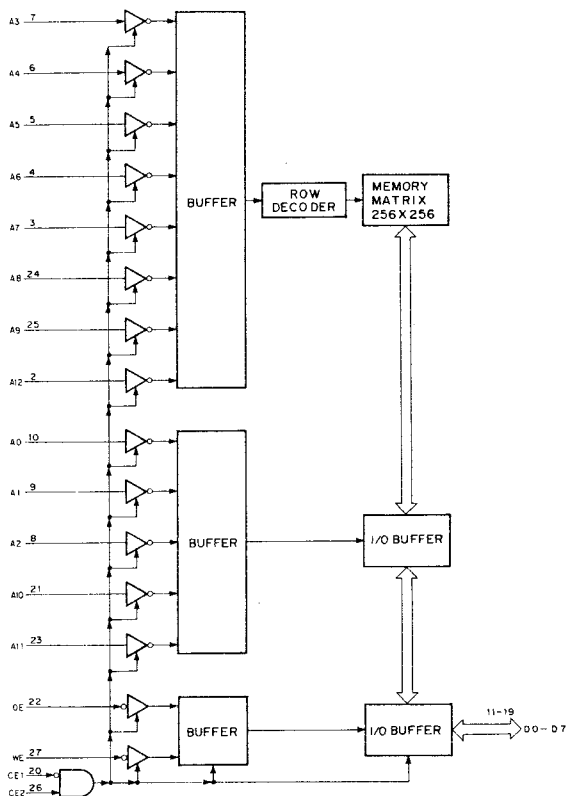
The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

CXD1095Q (SONY) FLAT PACKAGE
C-MOS I/O PORT EXPANDER
— TOP VIEW —

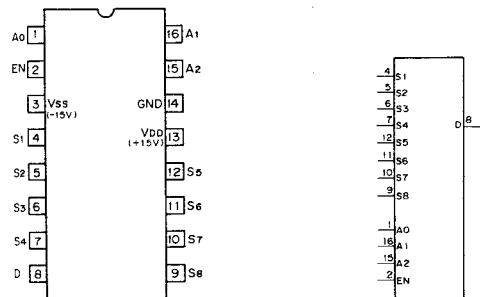


CXK5864P-10 (SONY) (ACCESS TIME = 100ns)
C-MOS 64K (8Kx8-BIT) STATIC RAM
— TOP VIEW —



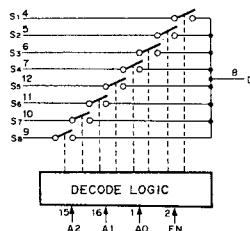


DG508ACJ (SILICONIX)
CMOS 8-CHANNEL/DUAL 4-CHANNEL ANALOG MULTIPLEXERS
- TOP VIEW -

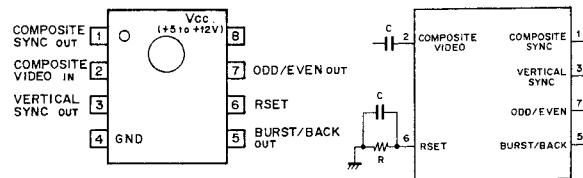


A ₂	A ₁	A ₀	EN	ON SWITCH
X	X	X	0	NONE
0	0	0	1	1
0	0	1	1	2
0	1	0	1	3
0	1	1	1	4
1	0	0	1	5
1	0	1	1	6
1	1	0	1	7
1	1	1	1	8

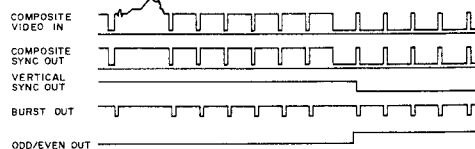
0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE



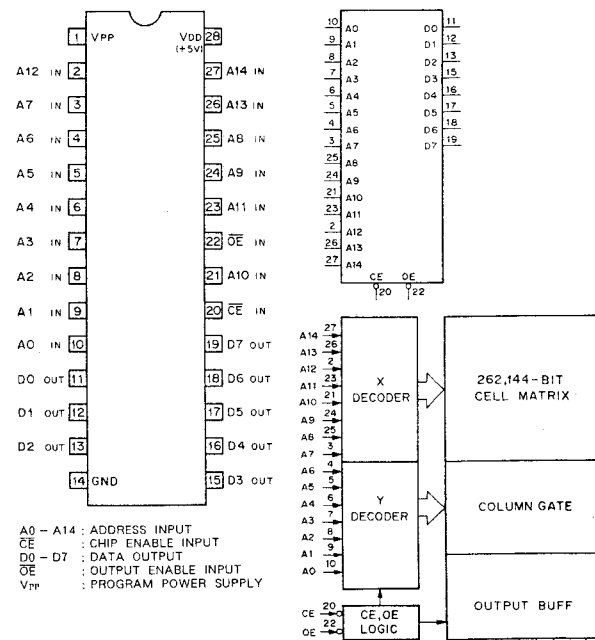
LM1881M (NS) FLAT PACKAGE
VIDEO SYNC SEPARATOR
- TOP VIEW -



TIMING CHART



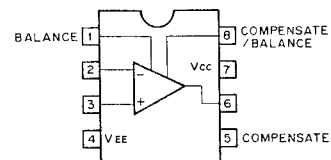
MBM27C256A-20CZ (FUJITSU) (ACCESS TIME=200ns)
C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS
- TOP VIEW -



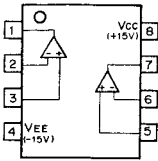
A _n	CE	OE	V _{PP}	D _n	FUNCTION
A _n	0	0	+5V	D _{OUT}	READ
A _n	0	1	+5V	Hi-Z	OUTPUT DISABLE
X	1	X	+5V	Hi-Z	STANDBY
A _n	0	1	+21V	D _{IN}	PGM
A _n	0	0	+21V	D _{OUT}	PGM VERIFY
X	1	1	+21V	Hi-Z	PGM INH

0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE
Hi-Z: HIGH IMPEDANCE

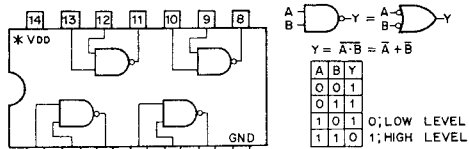
NE5534P (TI)
OPERATIONAL AMPLIFIER
- TOP VIEW -



NJM4565MD (JRC) FLAT PACKAGE

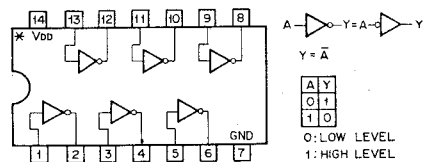
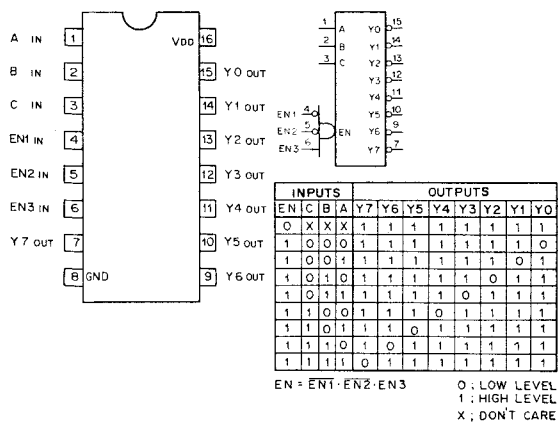
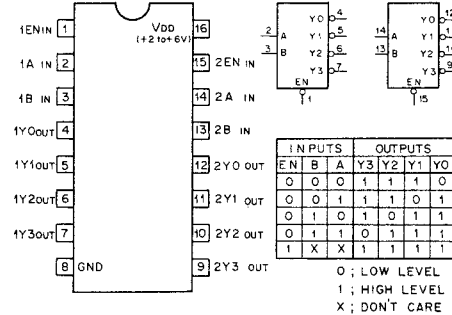
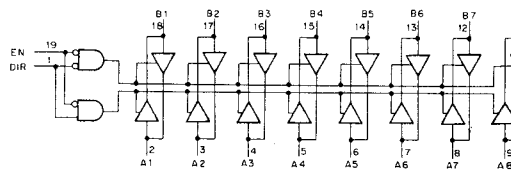
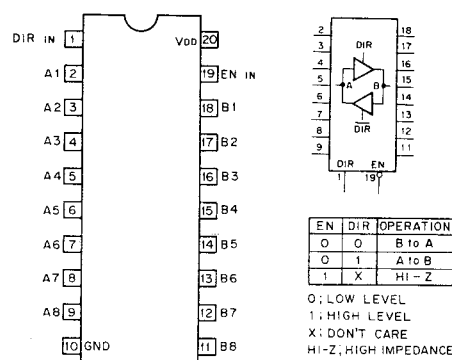
DUAL OPERATIONAL AMPLIFIER
- TOP VIEW -

SN74HC00NS (TI) FLAT PACKAGE

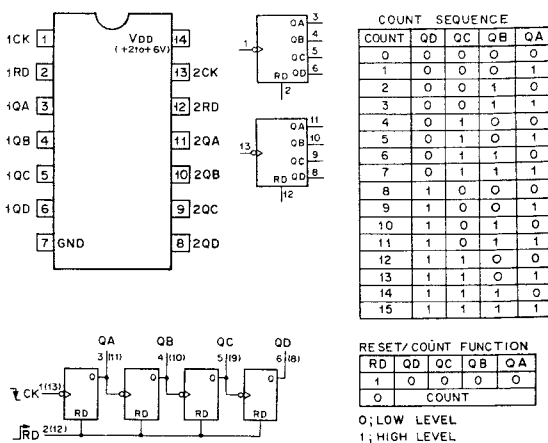
C-MOS 2-INPUT NAND GATE
- TOP VIEW -* VDD AC, HC; +2 to +6V
HCT; +5V

SN74HC04NS (TI) FLAT PACKAGE

SN74HC04NS (TI) FLAT PACKAGE

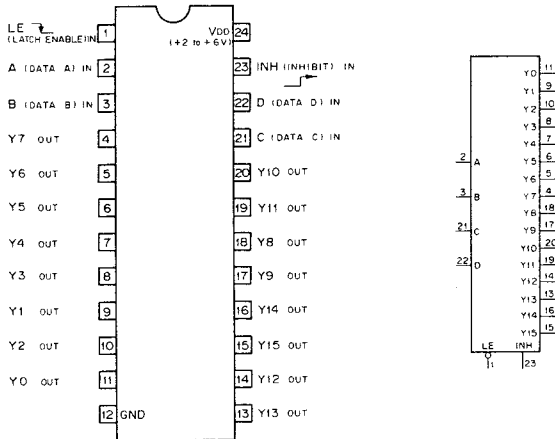
C-MOS INVERTER
- TOP VIEW -* VDD HC, HCU; +2 to +6V
HCT; +5VSN74HC138NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGEC-MOS 3-TO-8 LINE DECODER/DEMULTEPLEXER
- TOP VIEW -SN74HC139NS (TI) (V_{DD} = +2 to +6V)C-MOS 1-OF-4 DECODER/DEMULTEPLEXER
- TOP VIEW -SN74HC245NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGEC-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
- TOP VIEW -

SN74HC393NS (TI) FLAT PACKAGE

C-MOS 4-BIT BINARY COUNTER
- TOP VIEW -

SN74HC4514NT (TI) FLAT PACKAGE

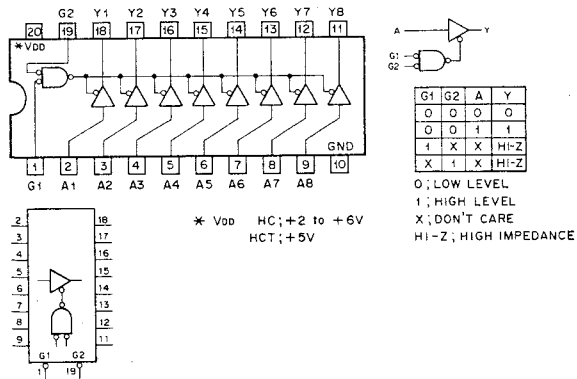
C-MOS 4-LINE TO 16-LINE DECODER/DEMULTIPLEXER WITH ADDRESS LATCHES
- TOP VIEW -



INH	LATCHED DATA				SELECTED								OUTPUTS									
	D	C	B	A	M5	M4	M3	M2	Y4	Y3	Y2	Y1	Y0	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	ALL OUTPUTS = 0																					

SN74HC541NS (TI) FLAT PACKAGE

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
- TOP VIEW -

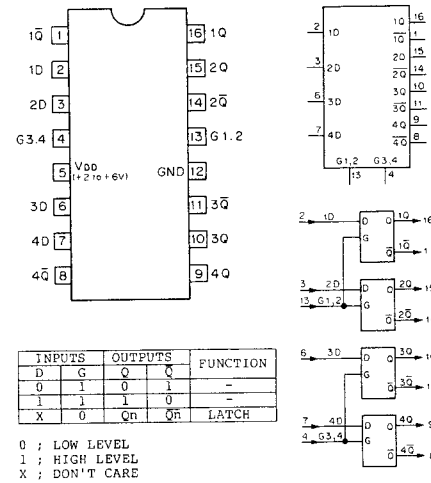


G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

SN74HC75NS (TI) FLAT PACKAGE

C-MOS 4-BIT D-TYPE LATCH
- TOP VIEW -

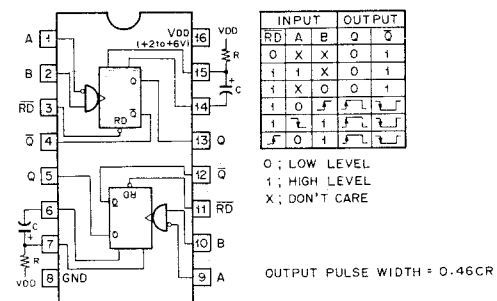


INPUTS	OUTPUTS	FUNCTION
D	Q	Q
0	1	0
1	1	1
X	0	Qn

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC74HC123AF (TOSHIBA) FLAT PACKAGE

TC74HC123F (TOSHIBA) FLAT PACKAGE
C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
- TOP VIEW -



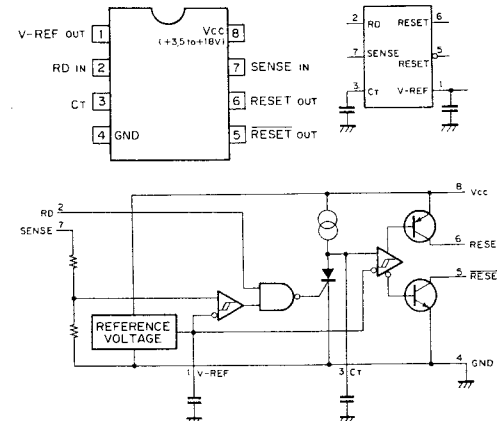
INPUT	OUTPUT
RD	Q
0	X
1	1
1	X
1	0
1	1
1	0
1	1

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH = 0.46CR

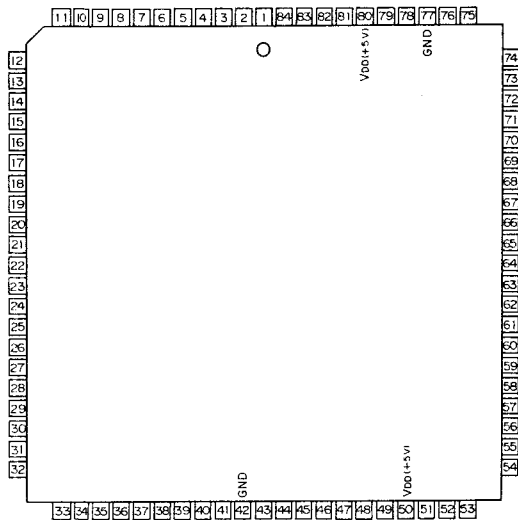
TL7705CP-B (TI)
POWER VOLTAGE SUPERVISOR

- TOP VIEW -

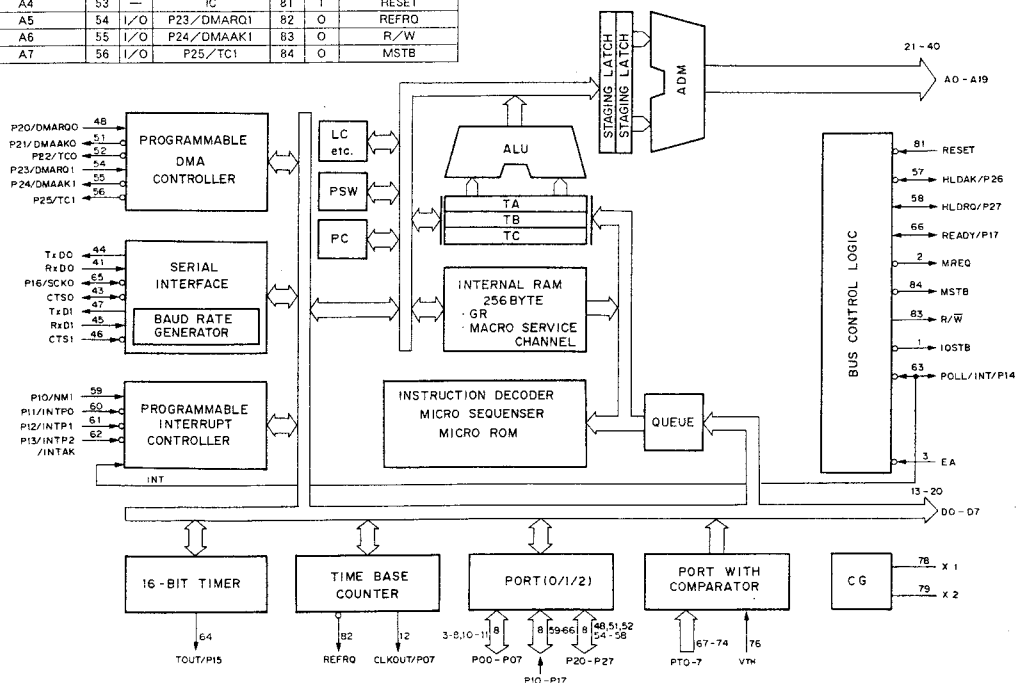
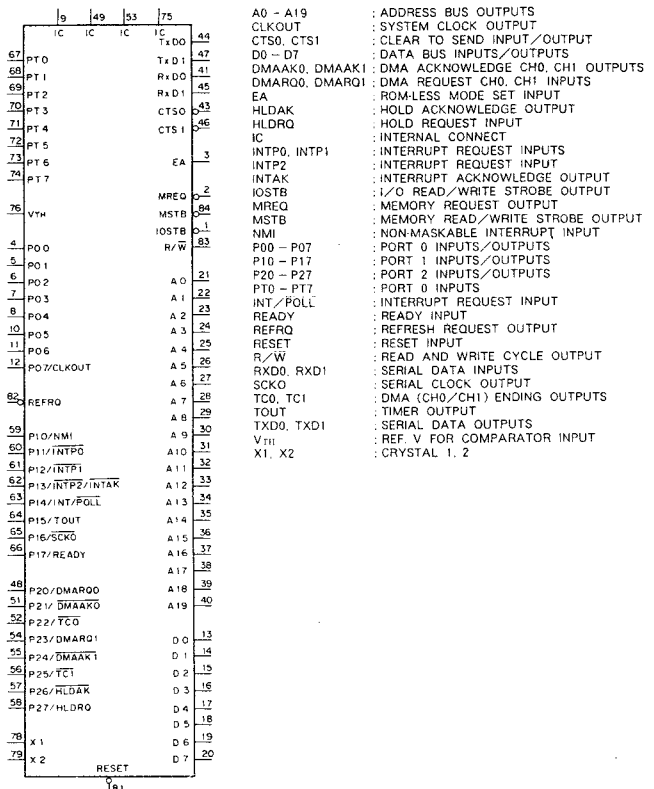


μPD70320L-8 (NEC)

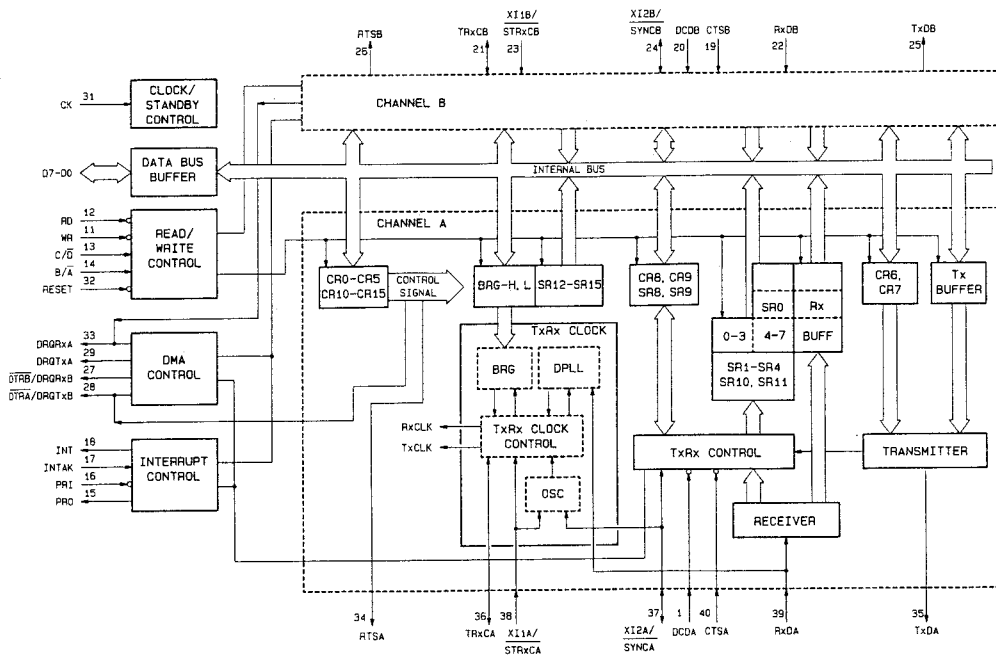
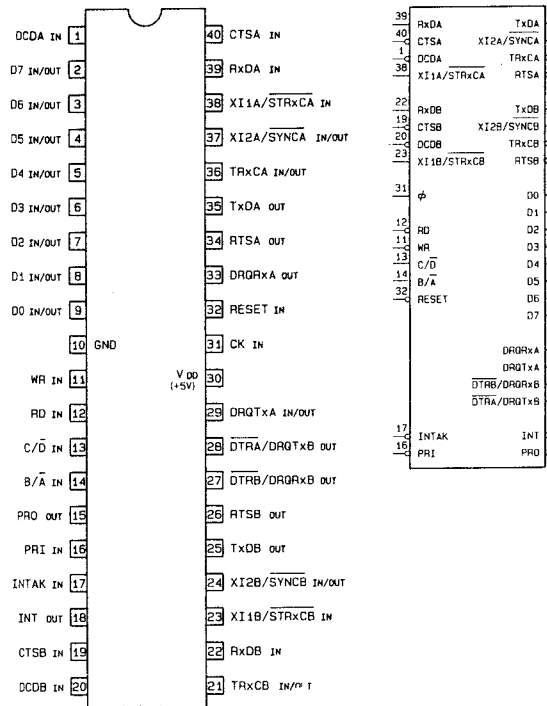
C-MOS 16-BIT MICROPROCESSOR
- TOP VIEW -



PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	O	IOSTB	29	O	A8	57	I/O	P26/HLDAK
2	O	MREQ	30	O	A9	58	I/O	P27/HLDRO
3	I	EA	31	O	A10	59	I/O	P10/NMI
4	I/O	P00	32	O	A11	60	I/O	P11/INTP0
5	I/O	P01	33	O	A12	61	I/O	P12/INTP1
6	I/O	P02	34	O	A13	62	I/O	P13/INTP2/INTAK
7	I/O	P03	35	O	A14	63	I/O	P14/INTP2/POLL
8	I/O	P04	36	O	A15	64	I/O	P15/TOUT
9	—	IC	37	O	A16	65	I/O	P16/SCKO
10	I/O	P05	38	O	A17	66	I/O	P17/READY
11	I/O	P06	39	O	A18	67	I	PT0
12	I/O	P07/CLKOUT	40	O	A19	68	I	PT1
13	I/O	D0	41	I	RXD0	69	I	PT2
14	I/O	D1	42	—	GND	70	I	PT3
15	I/O	D2	43	I/O	CTS0	71	I	PT4
16	I/O	D3	44	O	TXD0	72	I	PT5
17	I/O	D4	45	I	RXD1	73	I	PT6
18	I/O	D5	46	I	CTS1	74	I	PT7
19	I/O	D6	47	O	TXD1	75	—	IC
20	I/O	D7	48	I/O	P20/DMAK0	76	I	V _{TH}
21	O	A0	49	—	IC	77	—	GND
22	O	A1	50	I	V _{DD} (+5V)	78	—	X1
23	O	A2	51	I/O	P21/DMAAK0	79	—	X2
24	O	A3	52	I/O	P22/TC0	80	I	V _{DD} (+5V)
25	O	A4	53	—	IC	81	I	RESET
26	O	A5	54	I/O	P23/DMAK0	82	O	REFRQ
27	O	A6	55	I/O	P24/DMAK1	83	O	R/W
28	O	A7	56	I/O	P25/TC1	84	O	MSTB



uPD72001C (NEC)
C-MOS ADVANCED MULTI-PROTOCOL SERIAL CONTROLLER
— TOP VIEW —



INPUTS				FUNCTION
WR	RD	B/A	C/D	
0	1	0	0	CHANNEL A WRITE (TxD)
0	1	1	0	CHANNEL B WRITE (TxD)
1	0	0	0	CHANNEL A READ (RxD)
1	0	1	0	CHANNEL B READ (RxD)
0	1	0	1	CHANNEL A WRITE (CONTROL REGISTER)
0	1	1	1	CHANNEL B WRITE (CONTROL REGISTER)
1	0	0	1	CHANNEL A READ (STATUS REGISTER)
1	0	1	1	CHANNEL B READ (STATUS REGISTER)
1	1	X	X	HIGH-IMPEDANCE
0	0	X	X	INHIBIT

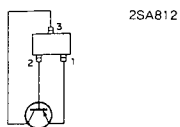
0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE.

CK : SYSTEM CLOCK INPUT
WR : WRITE ENABLE INPUT
RD : READ ENABLE INPUT
B/A : CHANNEL B/A SELECT INPUT
C/D : CONTROL/DATA SELECT INPUT
D0-D7 : DATA BUS INPUTS/OUTPUTS
INT : INTERRUPT OUTPUT
INTAK : INTERRUPT ACKNOWLEDGE INPUT
PRI : PRIORITY INPUT
DRQrXA : DMA REQUEST TxA OUTPUT
DRQrXB : DMA REQUEST RxX OUTPUT
PRO : PRIORITY OUTPUT

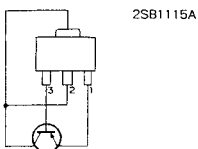
DTRA/DRQTxB : DATA TERMINAL READY A/DMA REQUEST TxX OUTPUT
DTRB/DRQrXB : DATA TERMINAL READY B/DMA REQUEST RxX OUTPUT
CTSA, CTSB : CLEAR TO SEND A/B INPUT
DCDA, DCDB : DATA CARRIER DETECT A/B INPUT
RTSA, RTSB : REQUEST TO SEND A/B OUTPUT
RESET : RESET INPUT

TRANSISTER, DIODE

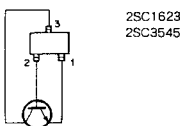
TRANSISTER



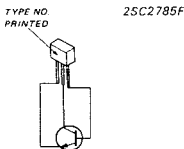
2SA812



2SB1115A

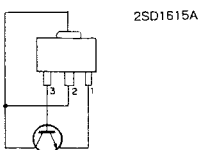


2SC1623
2SC3545

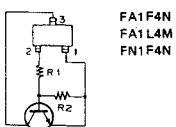


TYPE NO.
PRINTED

2SC2785F

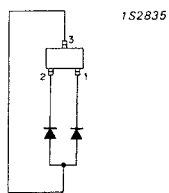


2SD1615A

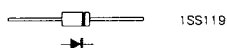


FA1F4N
FA1L4M
FN1F4N

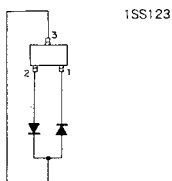
DIODE



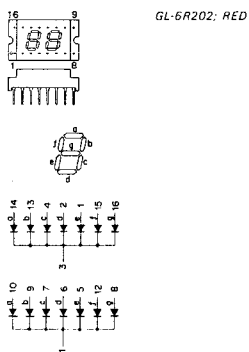
1S2835



1SS119



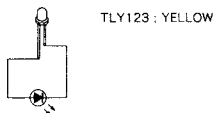
1SS123



GL-6R202; RED



LN358P; GREEN



TLY123; YELLOW

SECTION 7

SCHEMATIC DIAGRAMS

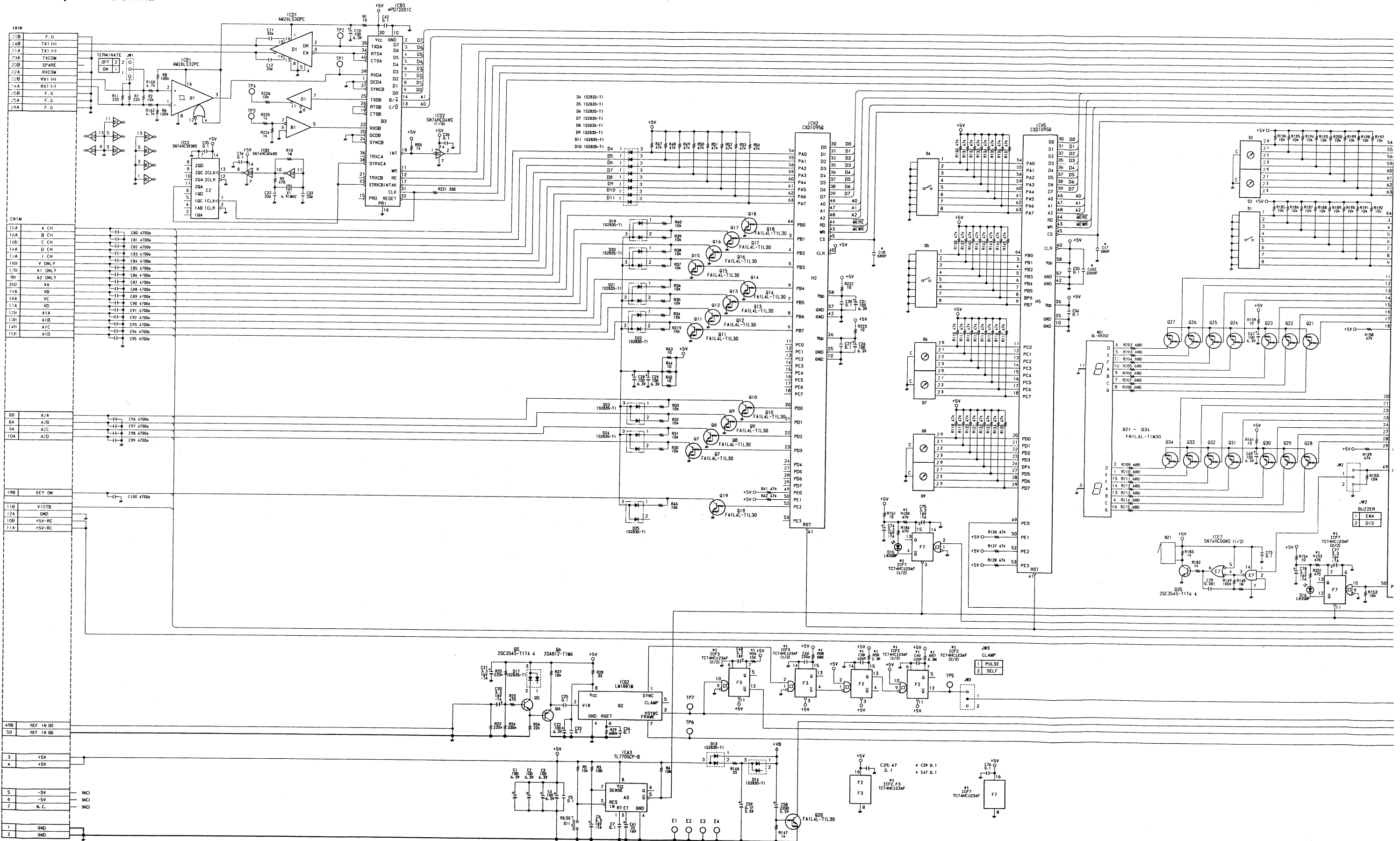
CIRCUIT FUNCTION OF THE SCHEMATIC DIAGRAMS

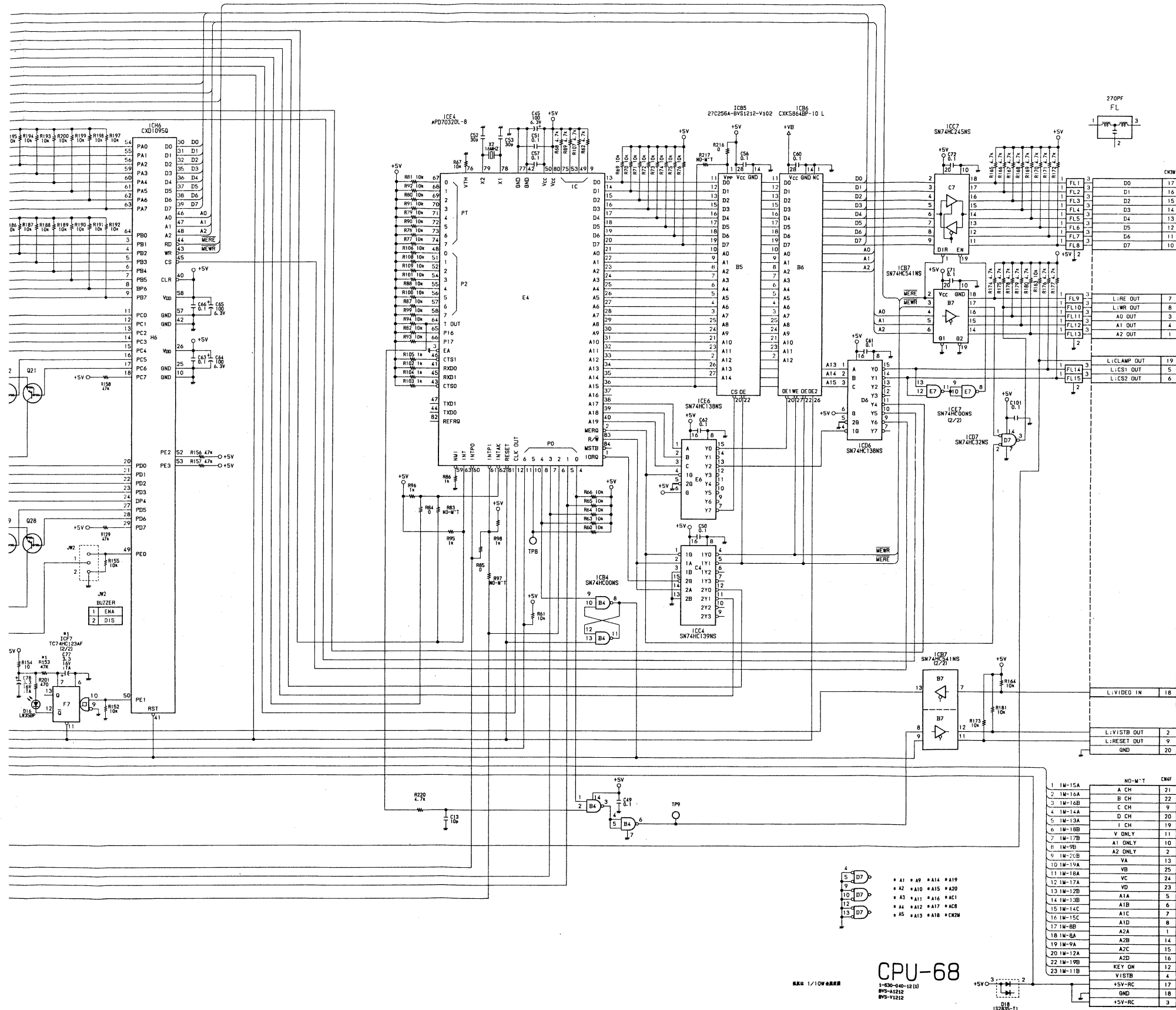
The circuit information is provided below.

CIRCUIT BOARD	CIRCUIT FUNCTION
AA-48	AUDIO AMPLIFIER BOARD
ASW-17	AUDIO MATRIX BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
MB-262	MOTHER BOARD
TR-56	TRANS BOARD
SW-354	SWITCH BOARD (BKS-R1210)

7-1
7-2 } Leave Section
7-3
7-4

CPU-68; CPU BOARD





NOTE:

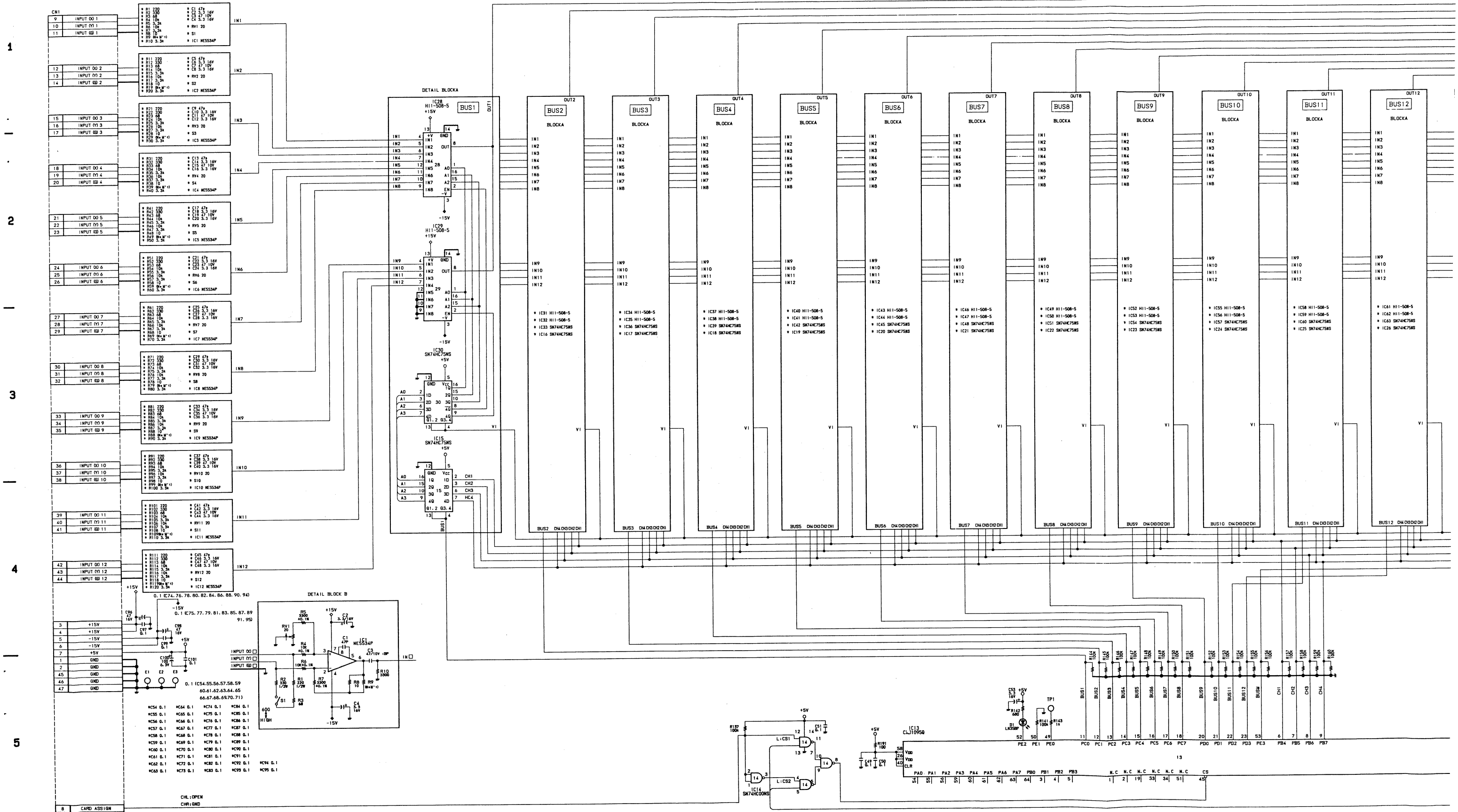
MARK	ADDRESS	CHANGE INFORMATION	SERIAL NO.
F-2	0-2	C17 100PF → 680PF	J: 20021- E: 10136-
	F-2	C102 2200PF ADD	
F-4	C16	1500PF → 680PF	J: 20041- E: 10161-
	C38	8PF → 100PF	
	C40	10PF → 120PF	
	C40	10PF → 120PF	
E-4	R56	33K → 3.3K	J: 20041- E: 10161-
	R57	68K → 6.8K	
F-4	ICF2	TC74HC123F → TC74HC123AF	J: 20041- E: 10161-
	ICF3	TC74HC123F → TC74HC123AF	
I-4	R150	100K → 47K	J: 20041- E: 10161-
	R153	100K → 47K	
	ICF7	TC74HC123F → TC74HC123AF	

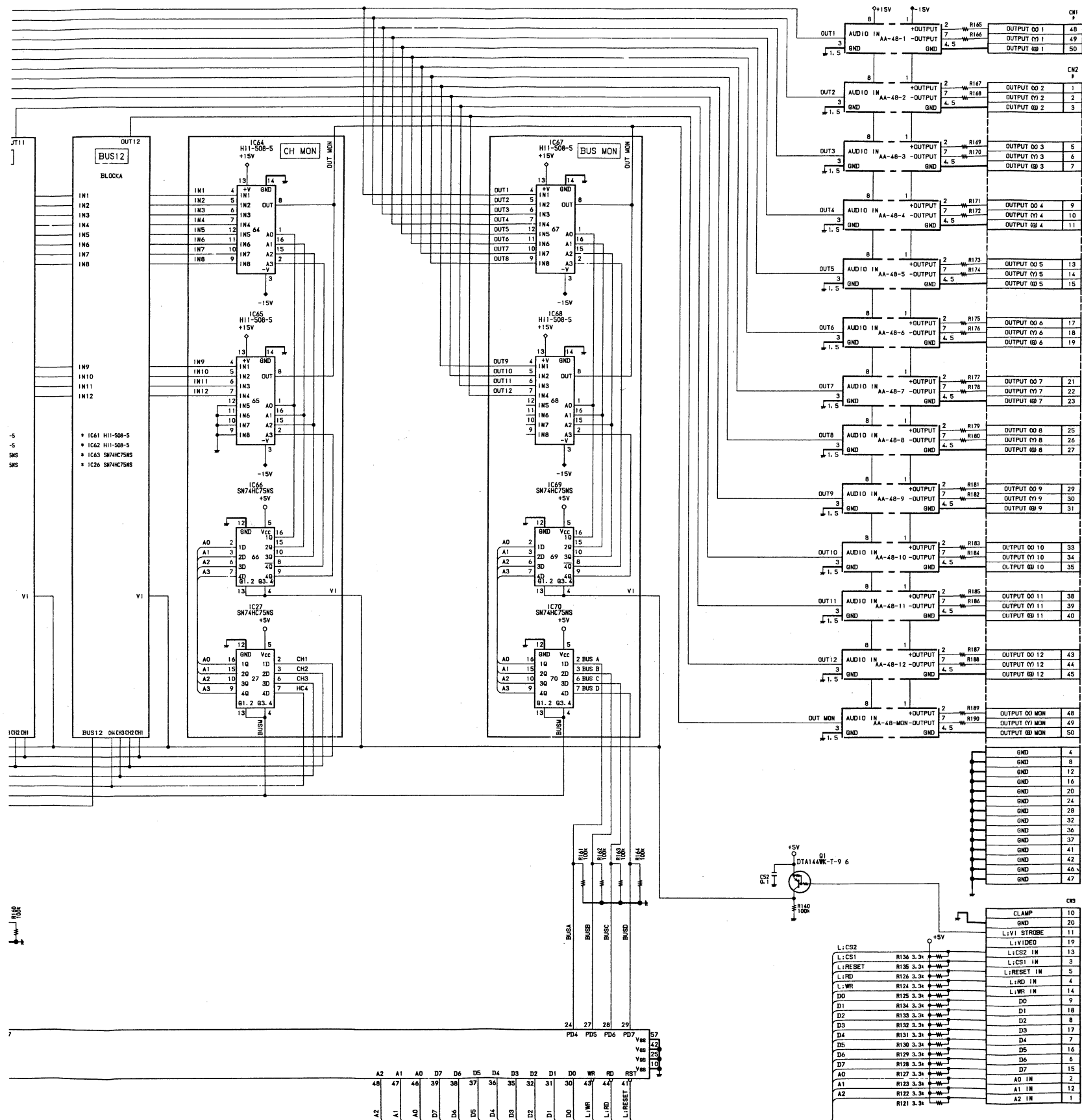
CPU-68

REV 1/10W 8888

1-50-040-12(1)
BY: A1212
BY: V1212+5V 3
D1 102835-T1

ASW-17; AUDIO MATRIX BOARD





ASW-17
1-830-037-12(1)
8V5-A1212

7-9
7-10
7-11
7-12

leere Seiten

AA-48; AUDIO AMPLIFIER BOARD

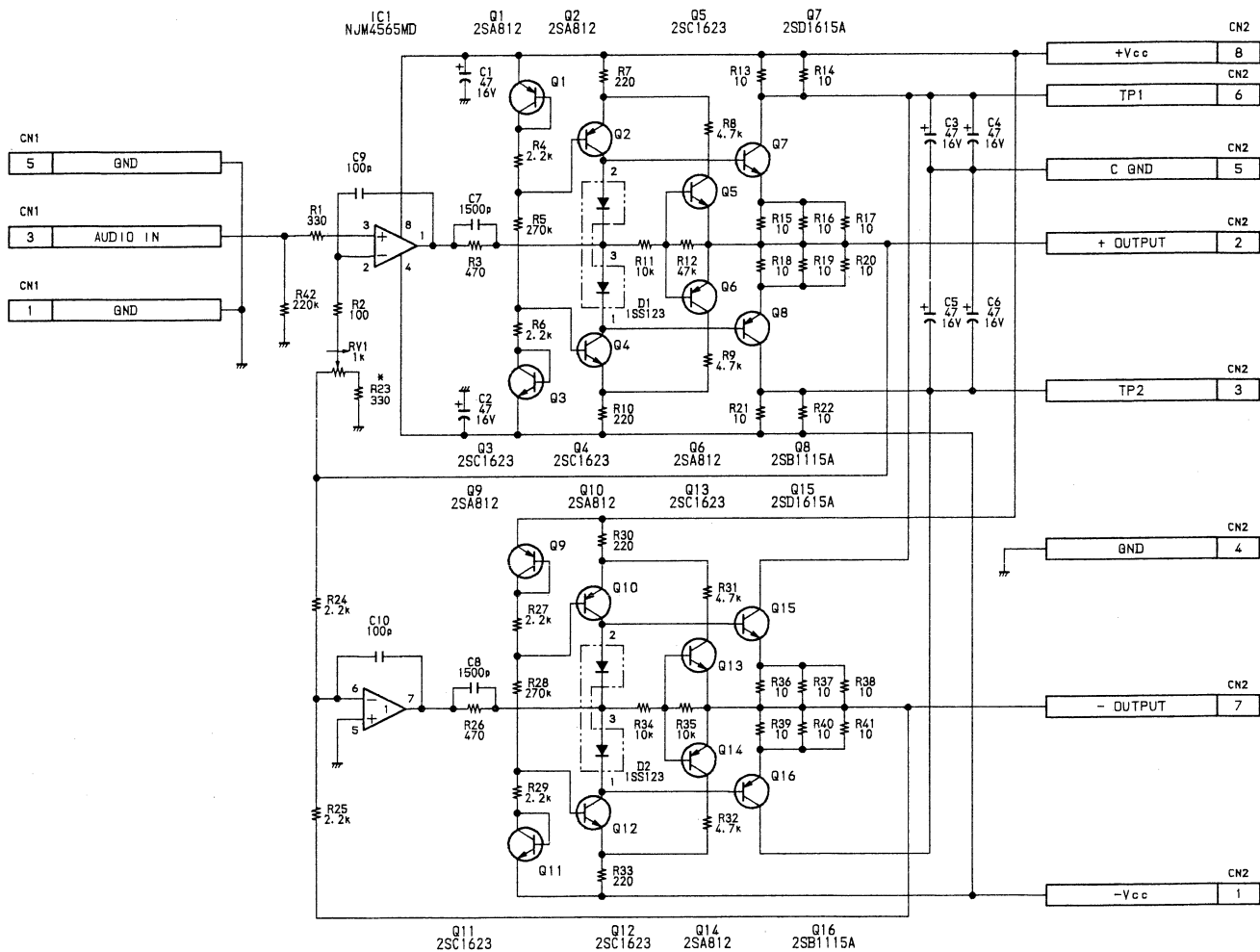
1

2

3

4

5



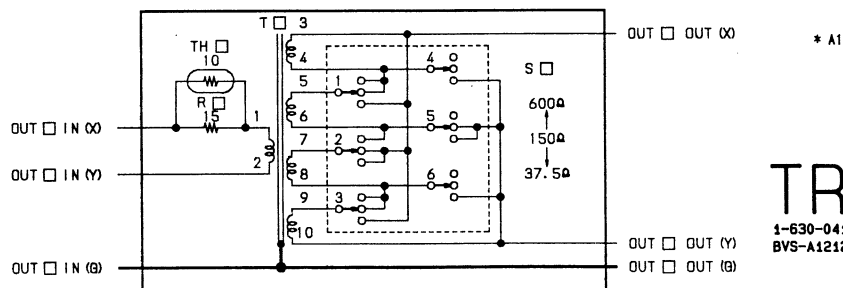
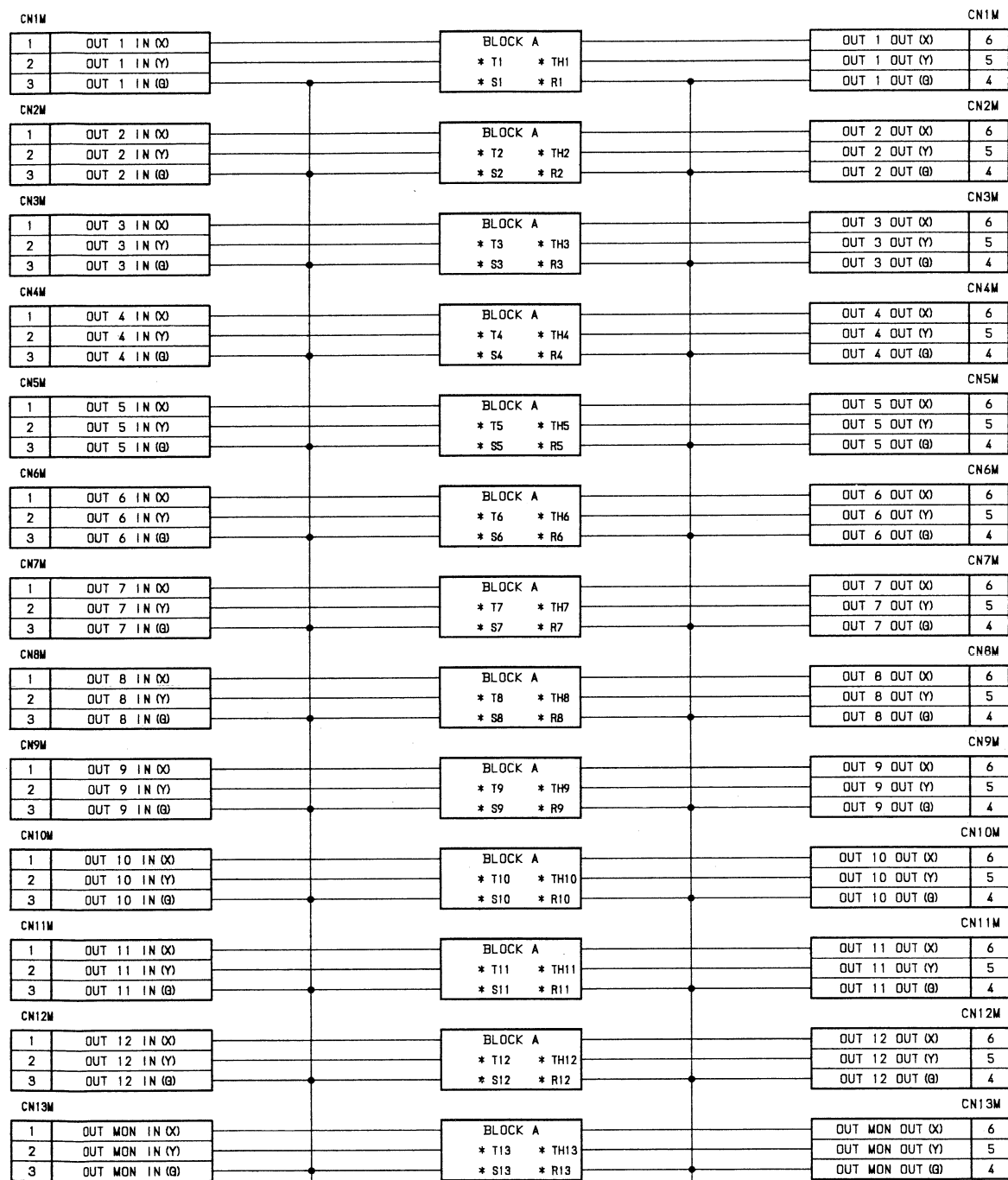
RV1 . OUTPUT LEVEL

NOTE:

MARK	ADDRESS	CHANGE INFORMATION	SERIAL NO.
*	B-2	R23 6.8K → 330	J: 20006- E: 10116-

AA-48
1-630-043-11, 12 (1)
BVS-A1201
BVS-A1212

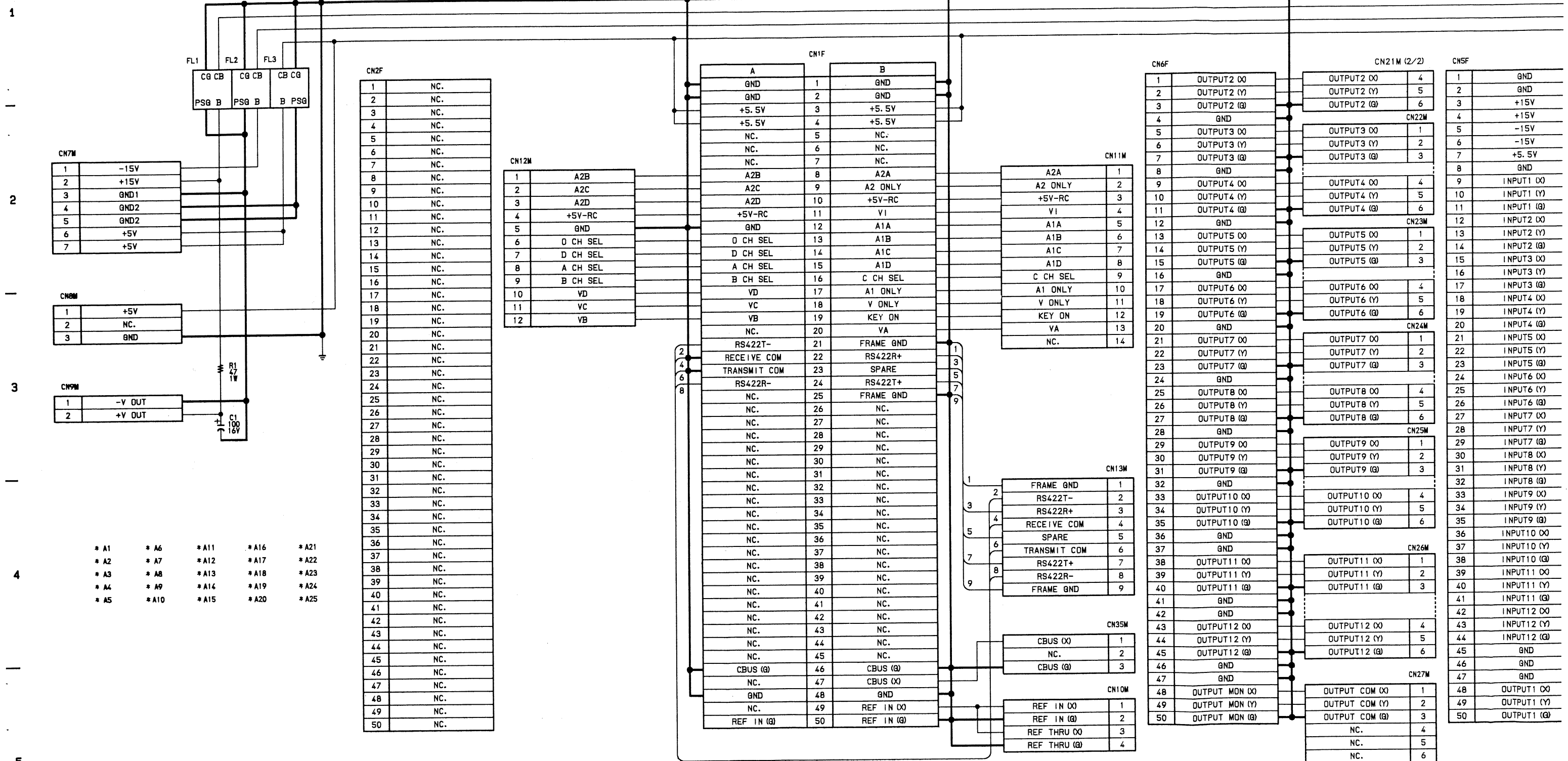
TR-56; TRANS BOARD

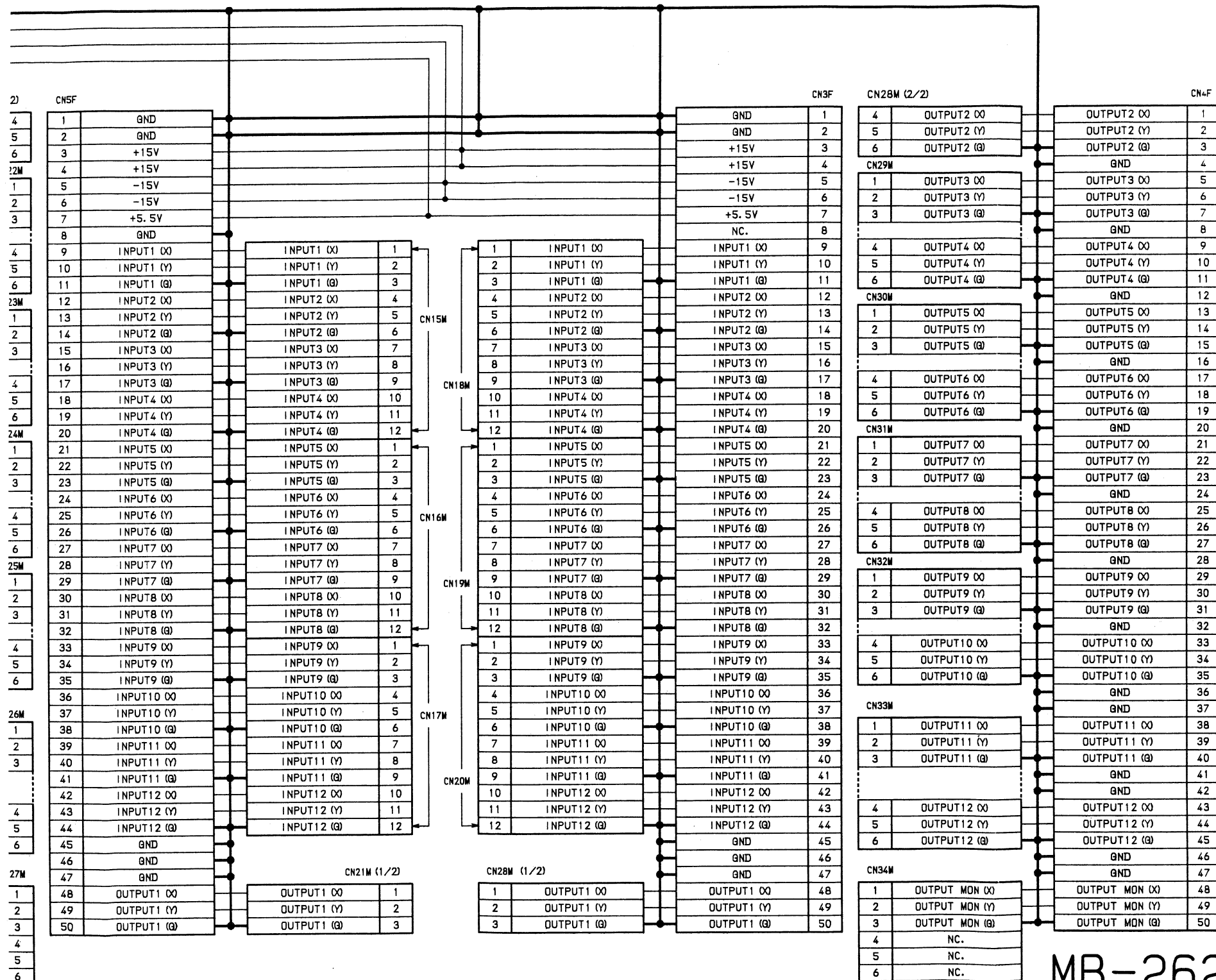


TR-56

1-630-041-11 (1)
BVS-A1212

MB-262; MOTHER BOARD





MB-262
1-630-042-11 (1)
BVS-A1212

7-17
bis
7-25 keine Seiten

FRAME

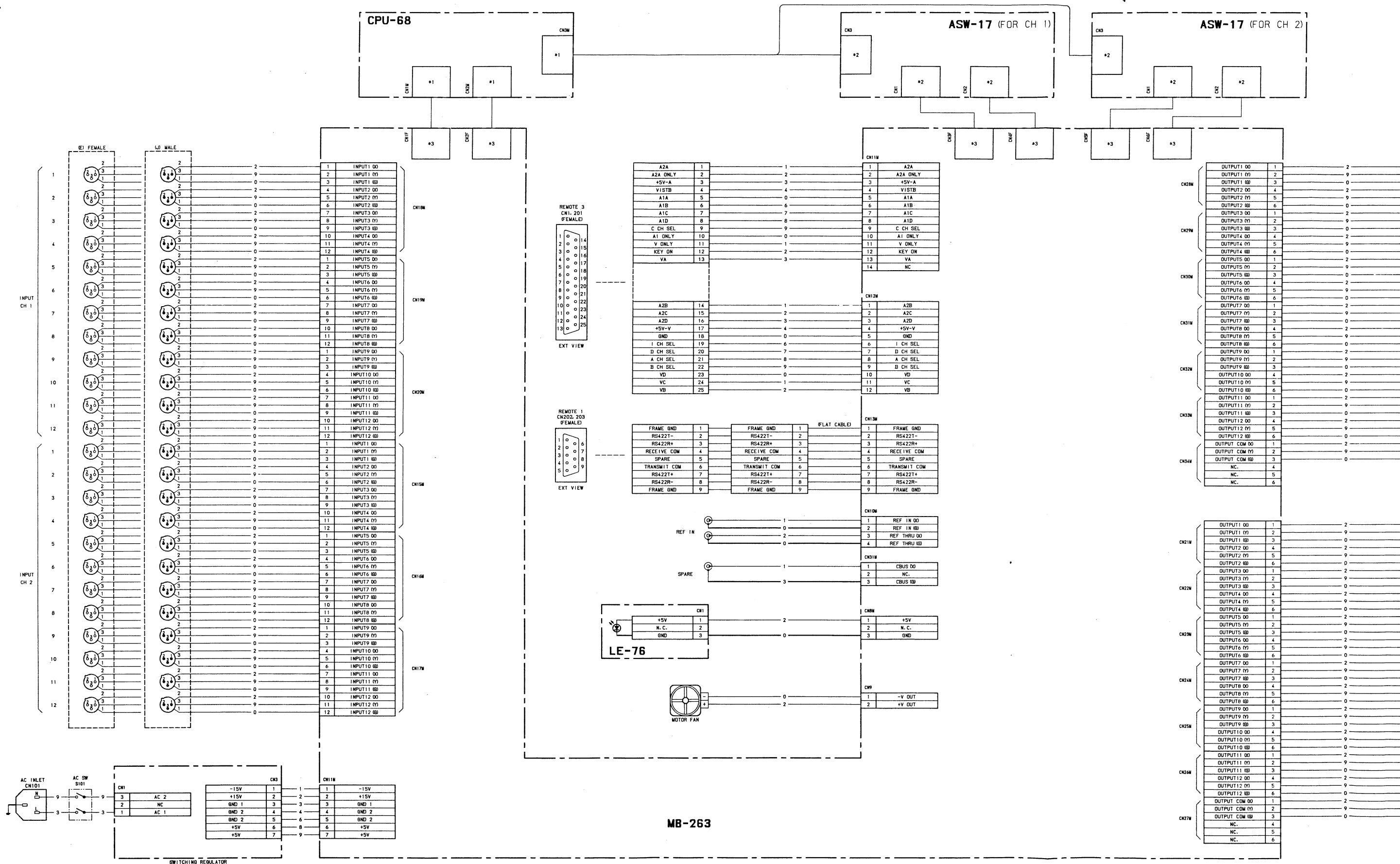
1

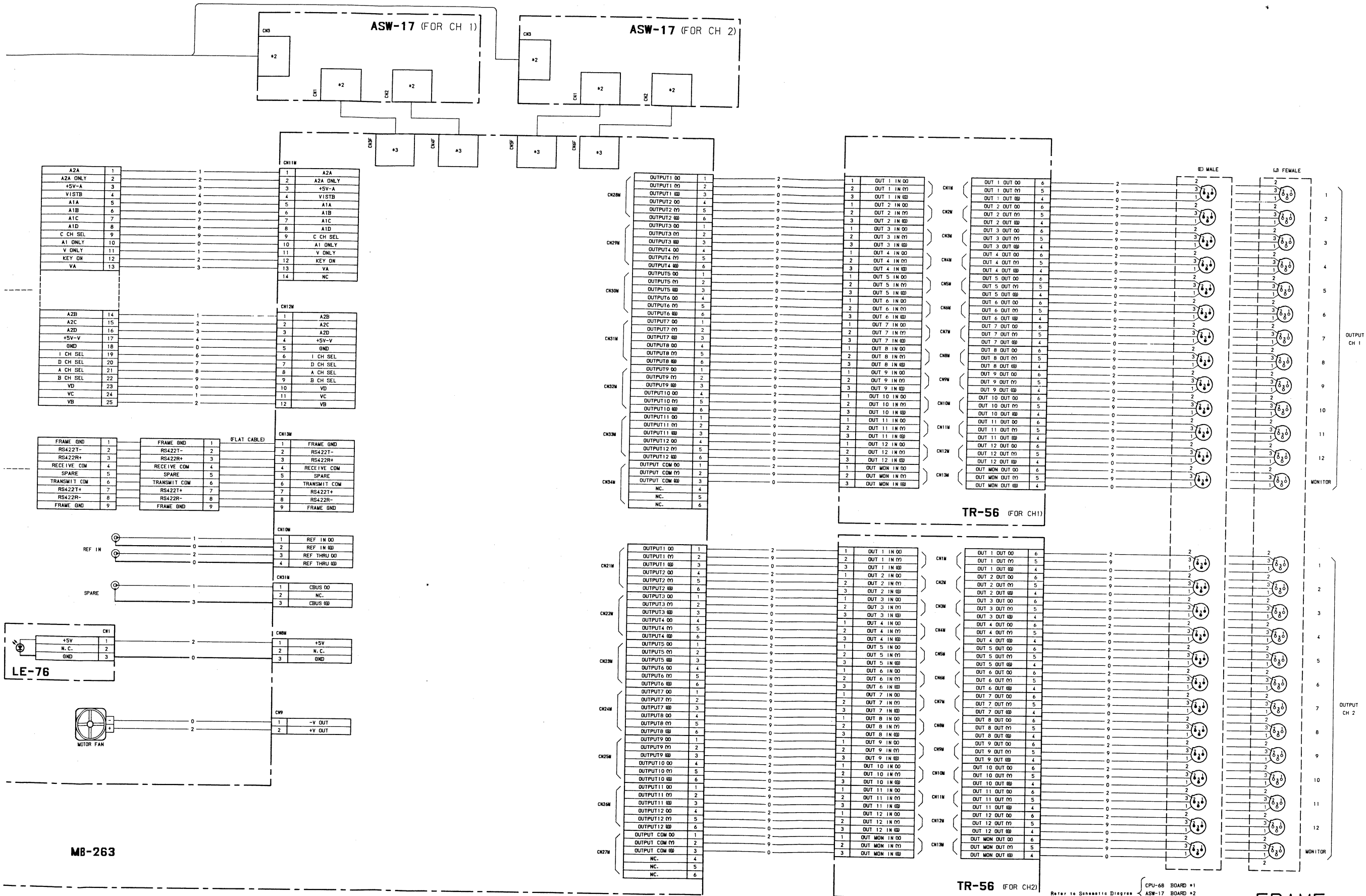
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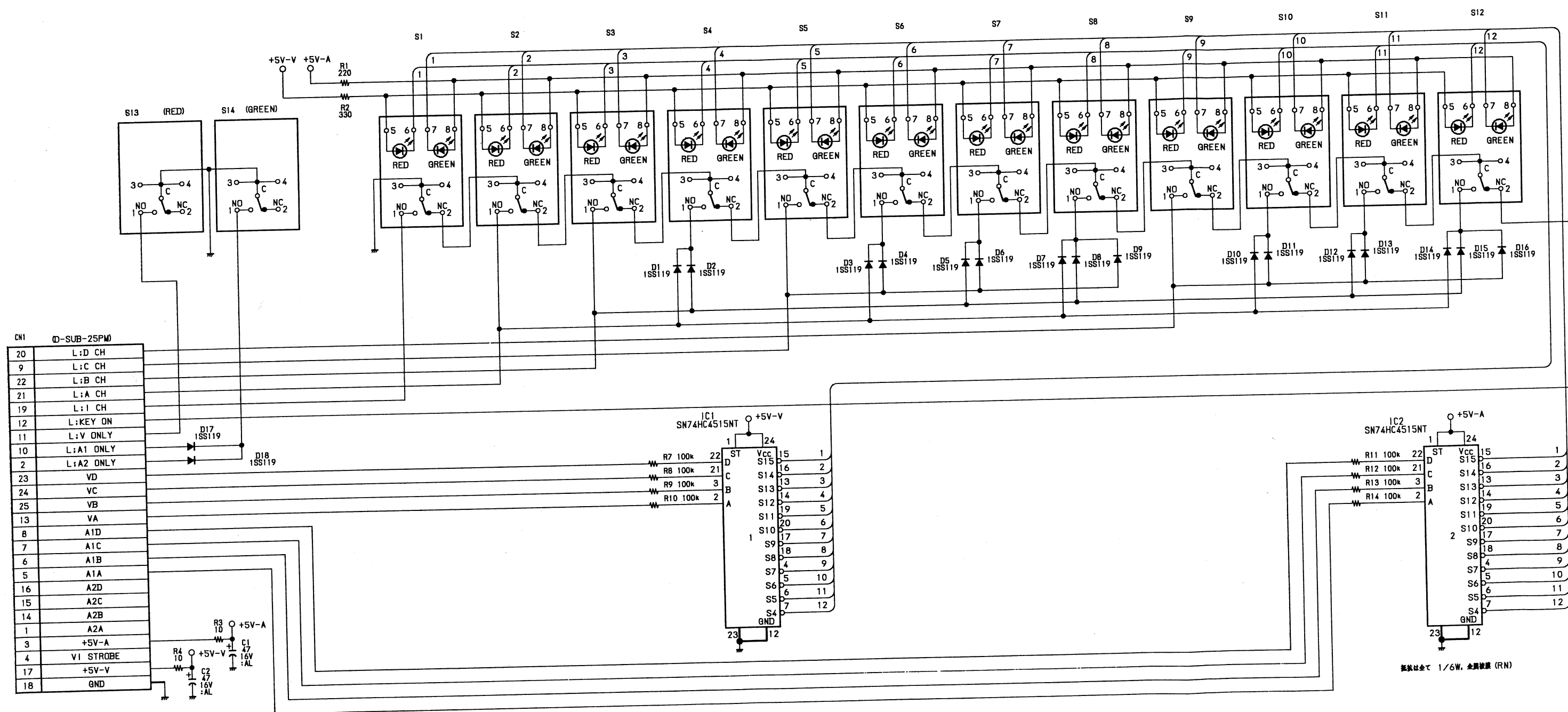
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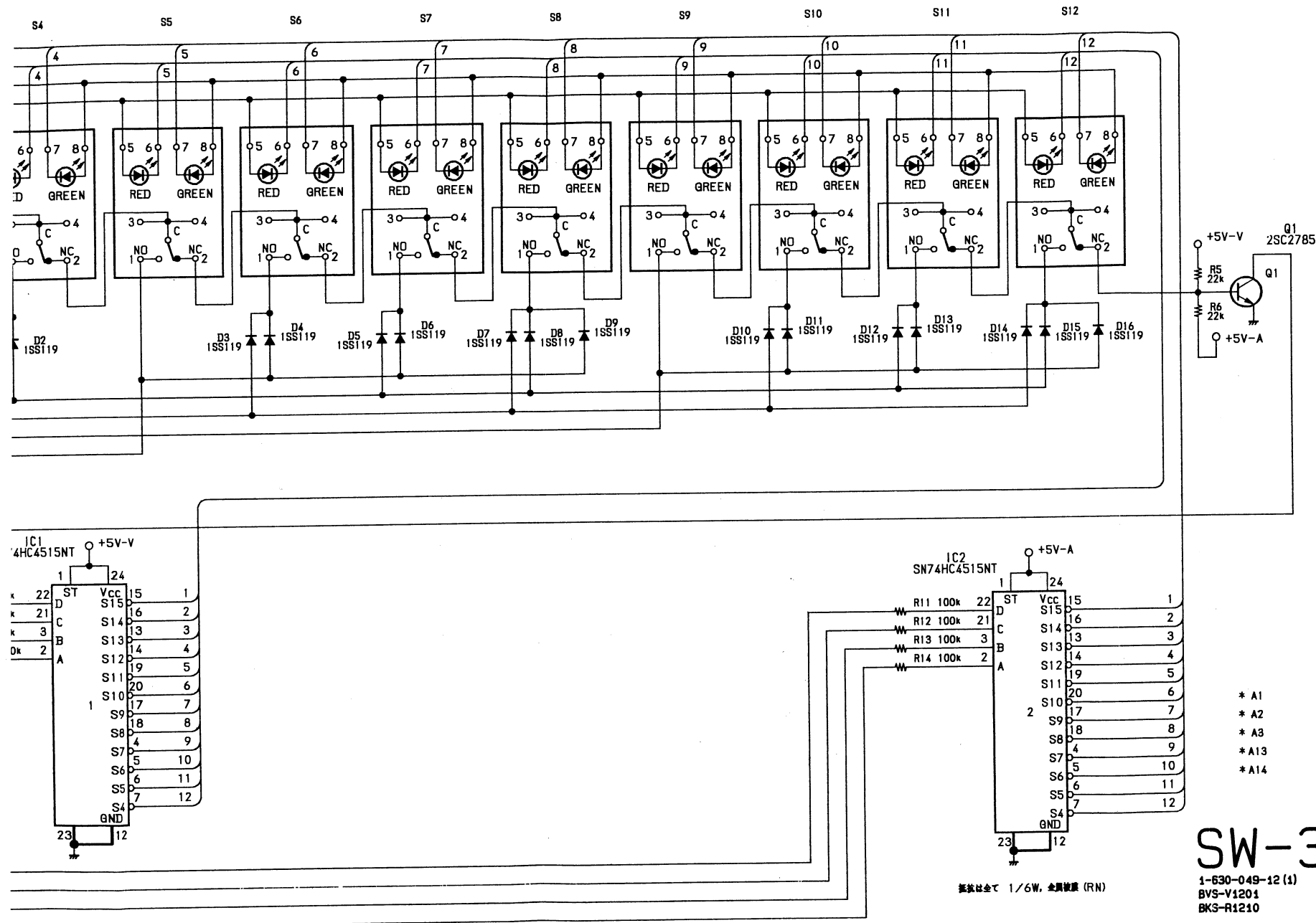
4

5





BKS-R1210
SW-354; SWITCH BOARD



SW-354
1-630-049-12 (1)
BVS-V1201
BKS-R1210

7-34
7-35
7-36
Beene
Seiten

SECTION 8 PRINTED WIRING BOARDS

CPU-68 CPU-68

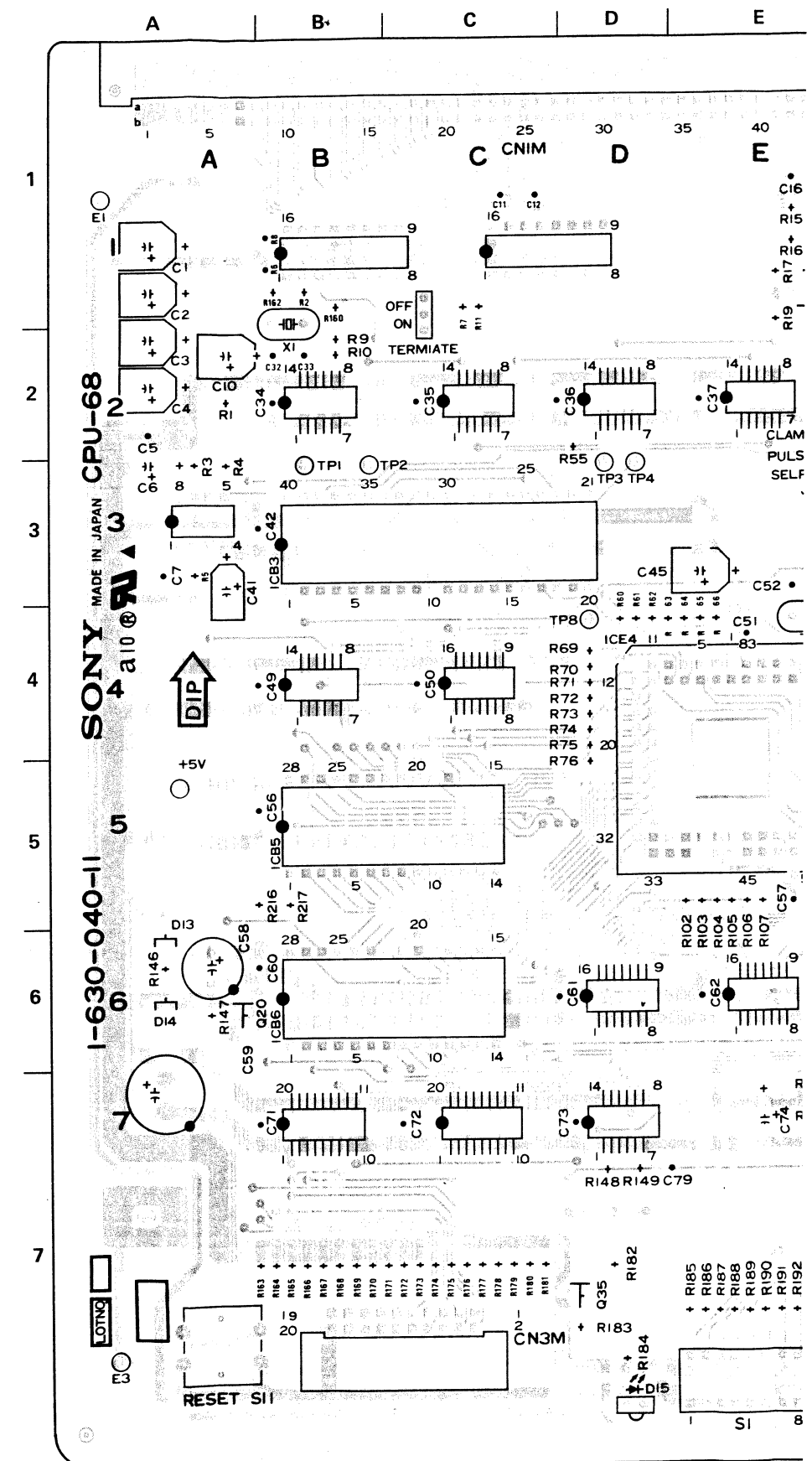
S/N 10001 TO 10035 (E)
S/N 20001 AND HIGHER (J)

CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F - 6	Q20	A - 6
CN1	A - 1	Q21	H - 6
CN2	G - 1	Q22	H - 6
CN3	C - 7	Q23	H - 6
		Q24	H - 6
		Q25	H - 7
D4	H - 3	Q26	H - 7
D5	H - 3	Q27	H - 7
D6	H - 3	Q28	H - 6
D7	H - 3	Q29	H - 6
D8	H - 3	Q30	H - 6
D9	H - 3	Q31	H - 6
D10	H - 3	Q32	H - 6
D11	H - 3	Q33	H - 7
D13	A - 6	Q34	H - 7
D14	A - 6	Q35	D - 7
D15	D - 7		
D16	H - 7	S1	E - 7
D17	G - 1	S2	G - 7
D18	H - 7	S3	G - 7
D19	H - 1	S4	H - 5
D20	H - 1	S5	H - 5
D21	H - 1	S6	H - 4
D22	H - 1	S7	H - 4
D23	H - 1	S8	H - 4
D24	H - 1	S9	H - 4
D25	H - 1	S11	A - 7
E1	A - 1	TP1	B - 3
E2	H - 1	TP2	B - 3
E3	A - 7	TP3	D - 3
E4	H - 7	TP4	D - 3
		TP5	F - 2
ICA3	A - 3	TP6	G - 2
		TP7	G - 2
		TP8	D - 4
ICB1	B - 1	X1	B - 2
ICB2	B - 2	X2	E - 4
ICB3	B - 3		
ICB4	B - 4		
ICB5	B - 5		
ICB6	B - 6		
ICB7	B - 7		
ICC1	C - 1		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		
ND1	H - 7		
Q5	F - 1		
Q6	F - 2		
Q7	H - 1		
Q8	H - 1		
Q9	H - 1		
Q10	H - 1		
Q11	H - 2		
Q12	H - 2		
Q13	H - 2		
Q14	H - 2		
Q15	H - 2		
Q16	H - 2		
Q17	H - 2		
Q18	H - 2		
Q19	H - 3		

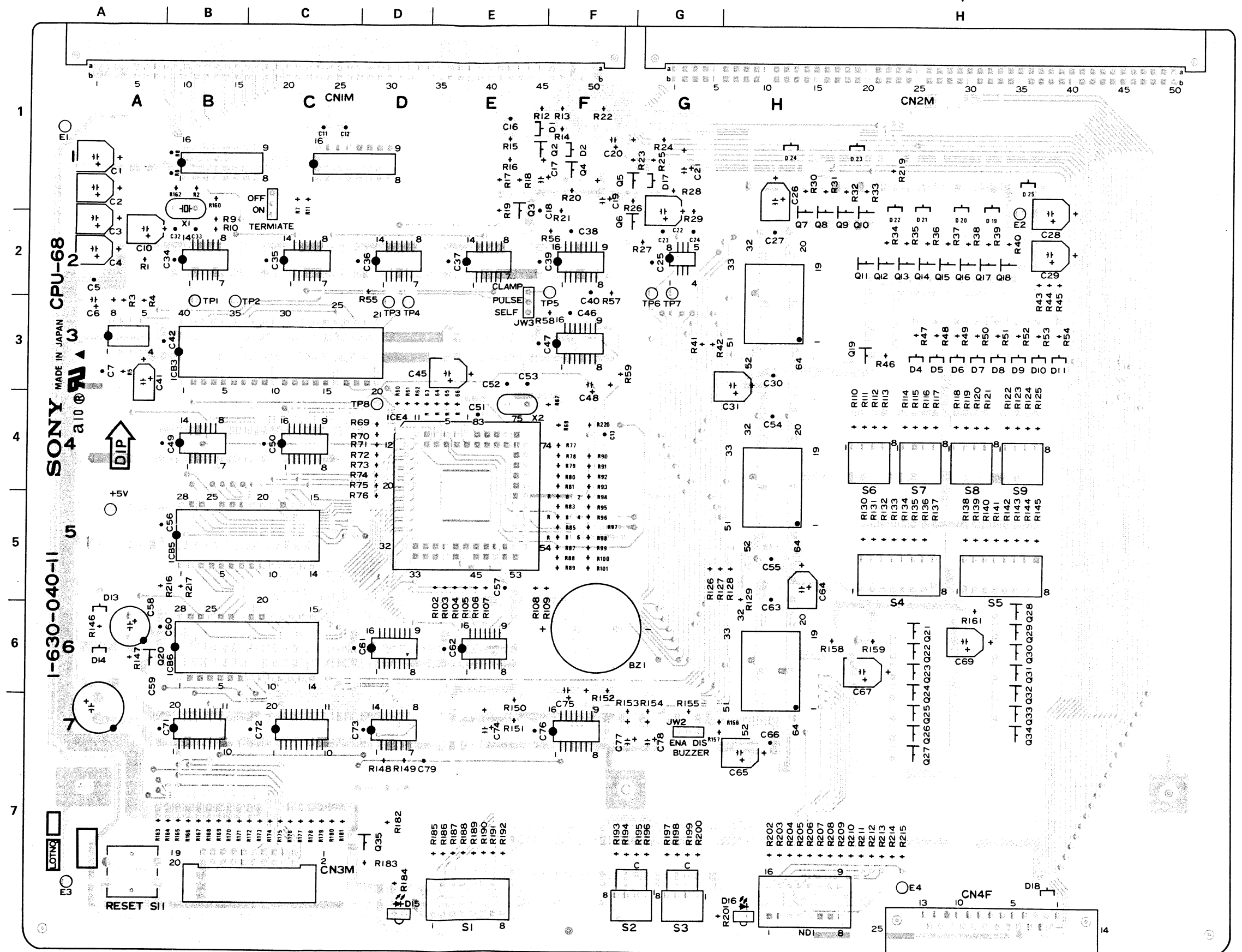


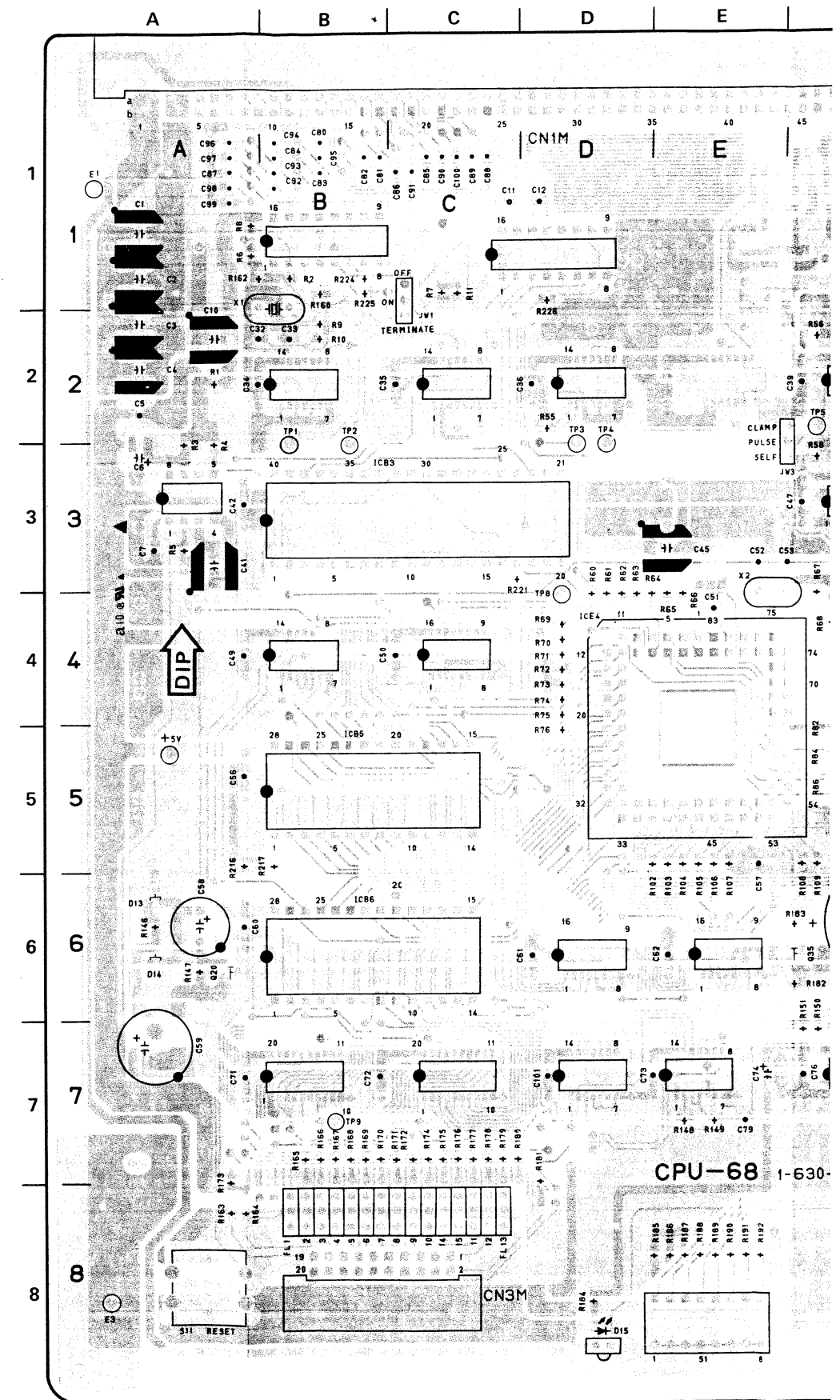
CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F-6	Q20	A-6
CN1	A-1	Q21	H-6
CN2	G-1	Q22	H-6
CN3	C-7	Q23	H-6
		Q24	H-6
		Q25	H-7
D4	H-3	Q26	H-7
D5	H-3	Q27	H-7
D6	H-3	Q28	H-6
D7	H-3	Q29	H-6
D8	H-3	Q30	H-6
D9	H-3	Q31	H-6
D10	H-3	Q32	H-6
D11	H-3	Q33	H-7
D13	A-6	Q34	H-7
D14	A-6	Q35	D-7
D15	D-7		
D16	H-7	S1	E-7
D17	G-1	S2	G-7
D18	H-7	S3	G-7
D19	H-1	S4	H-5
D20	H-1	S5	H-5
D21	H-1	S6	H-4
D22	H-1	S7	H-4
D23	H-1	S8	H-4
D24	H-1	S9	H-4
D25	H-1	S11	A-7
E1	A-1	TP1	B-3
E2	H-1	TP2	B-3
E3	A-7	TP3	D-3
E4	H-7	TP4	D-3
		TP5	F-2
ICA3	A-3	TP6	G-2
		TP7	G-2
		TP8	D-4
ICB1	B-1	X1	B-2
ICB2	B-2	X2	E-4
ICB3	B-3		
ICB4	B-4		
ICB5	B-5		
ICB6	B-6		
ICB7	B-7		
ICC1	C-1		
ICC2	C-2		
ICC4	C-4		
ICC7	C-7		
ICD2	D-2		
ICD6	D-6		
ICD7	D-7		
ICE4	E-4		
ICE6	E-6		
ICF2	F-2		
ICF3	F-3		
ICF7	F-7		
ICG2	G-2		
ICH2	H-2		
ICH5	H-5		
ICH6	H-6		
JW1	C-1		
JW2	G-7		
JW3	E-3		
ND1	H-7		
Q5	F-1		
Q6	F-2		
Q7	H-1		
Q8	H-1		
Q9	H-1		
Q10	H-1		
Q11	H-2		
Q12	H-2		
Q13	H-2		
Q14	H-2		
Q15	H-2		
Q16	H-2		
Q17	H-2		
Q18	H-2		
Q19	H-3		





CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-13)

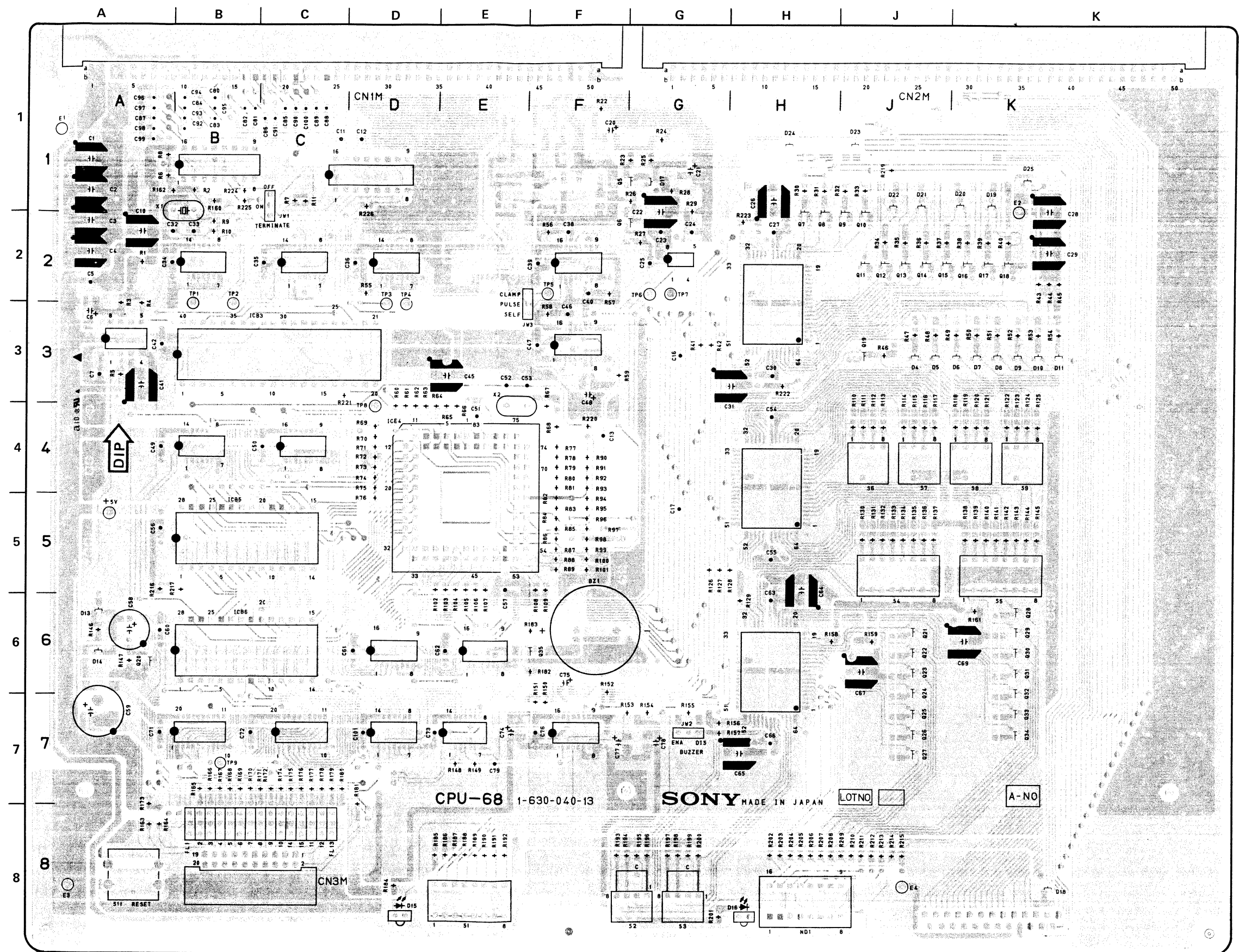
BZ1 F-6 ND1 H-7

CN1M A-1
CN2M G-1
CN3M C-8D4 J-3
D5 J-3
D6 K-3
D7 K-3
D8 K-3
D9 K-3
D10 K-3
D11 K-3
D13 A-6
D14 A-6
D15 D-8
D16 H-8
D17 G-1
D18 K-8
D19 K-1
D20 K-1
D21 J-1
D22 J-1
D23 J-1
D24 H-1
D25 K-1E1 A-1
E2 K-1
E3 A-8
E4 J-8FL1 B-8
FL2 B-8
FL3 B-8
FL4 B-8
FL5 B-8
FL6 B-8
FL7 B-8
FL8 C-8
FL9 C-8
FL10 C-8
FL11 C-8
FL12 C-8
FL13 C-8
FL14 C-8
FL15 C-8

ICA3 A-3

ICB1 B-1
ICB2 B-2
ICB3 B-3
ICB4 B-4
ICB5 B-5
ICB6 B-6
ICB7 B-7ICC2 C-2
ICC4 C-4
ICC7 C-7ICD1 D-1
ICD2 D-2
ICD6 D-6
ICD7 D-7ICE4 E-4
ICE6 E-6
ICE7 E-7ICF2 F-2
ICF3 F-3
ICF7 F-7

ICG2 G-2

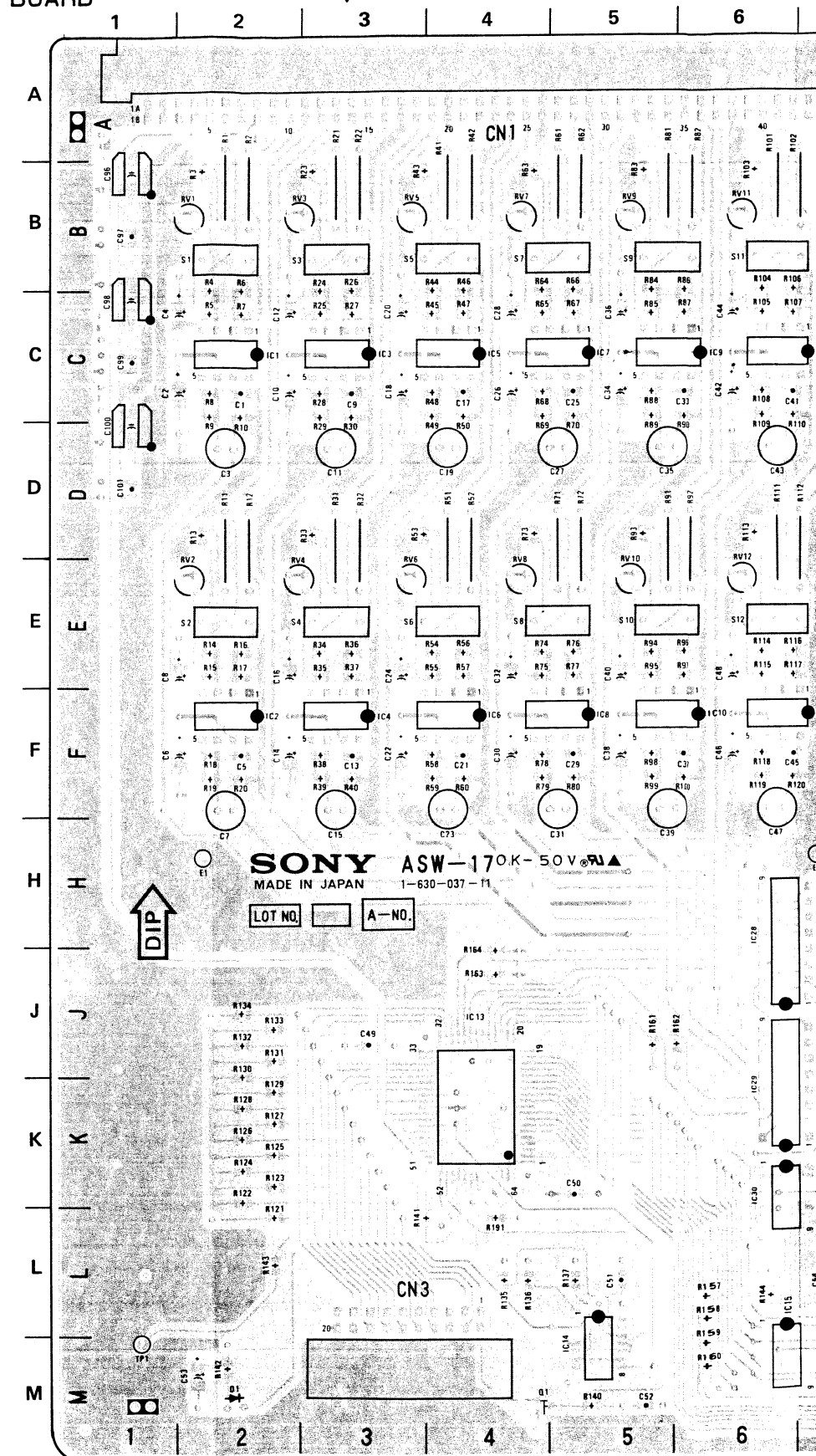
ICH2 H-2
ICH5 H-5
ICH6 H-6JW1 C-1
JW2 G-7
JW3 E-3Q5 F-1
Q6 F-2
Q7 H-1
Q8 H-1
Q9 J-1
Q10 J-1
Q11 J-2
Q12 J-2
Q13 J-2
Q14 J-2
Q15 J-2
Q16 K-2
Q17 K-2
Q18 K-2
Q19 J-3
Q20 A-6
Q21 J-6
Q22 J-6
Q23 J-6
Q24 J-6
Q25 J-7
Q26 J-7
Q27 J-7
Q28 K-6
Q29 K-6
Q30 K-6
Q31 K-6
Q32 K-6
Q33 K-7
Q34 K-7
Q35 F-6S1 E-8
S2 G-8
S3 G-8
S4 J-5
S5 K-5
S6 J-4
S7 J-4
S8 K-4
S9 K-4
S11 A-8TP1 B-3
TP2 B-3
TP3 D-3
TP4 D-3
TP5 F-2
TP6 G-2
TP7 G-2
TP8 D-4
TP9 B-7X1 B-2
X2 E-4

ASW-17; AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-11)

CN1	A - 4	IC4	E - 3
CN2	A - 11	IC5	B - 4
CN3	M - 3	IC6	E - 4
		IC7	B - 5
		IC8	E - 5
		IC9	B - 6
		IC10	E - 6
		IC11	B - 7
		IC12	E - 7
		IC13	J - 4
IC14	M - 5		
IC15	L - 6		
IC16	L - 7		
IC17	L - 8		
IC18	L - 9		
IC19	L - 9		
IC20	L - 10		
IC21	L - 11		
IC22	L - 11		
IC23	L - 12		
IC24	L - 13		
IC25	L - 13		
IC26	L - 14		
IC27	L - 15		
IC28	H - 6		
IC29	K - 6		
IC30	K - 6		
IC31	H - 7		
IC32	K - 7		
IC33	K - 7		
IC34	H - 8		
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		
RV1	B - 2		
RV2	E - 2		
RV3	B - 2		
RV4	E - 2		
RV5	B - 3		
RV6	E - 3		
RV7	B - 4		
RV8	E - 4		
RV9	B - 5		
RV10	E - 5		
RV11	B - 6		
RV12	E - 6		
D1	M - 2		
E1	H - 2		
E2	H - 7		
E3	H - 15		
IC1	B - 2		
IC2	E - 2		
IC3	B - 3		

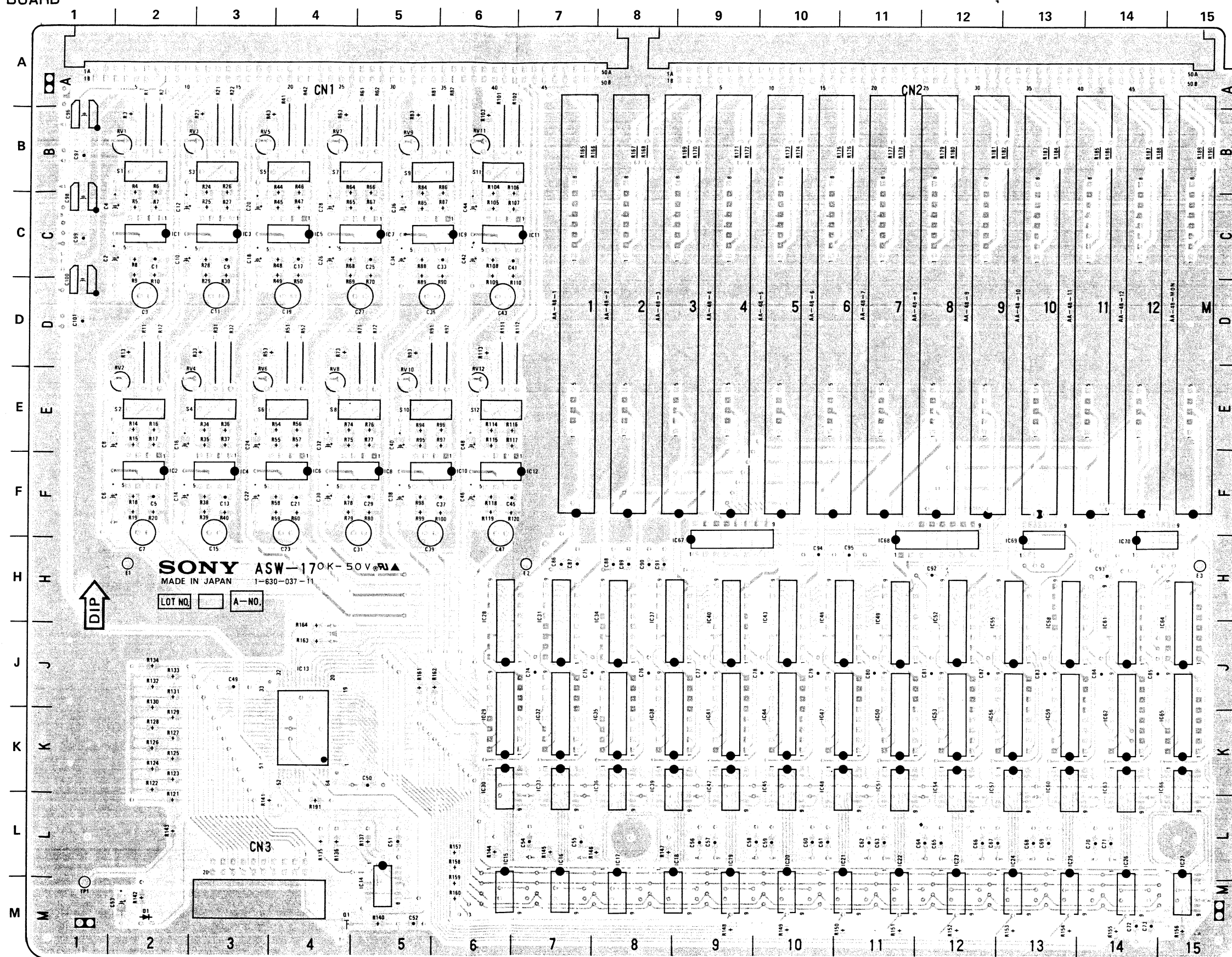


ASW-17; AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-11)

CN1	A - 4	IC4	E - 3
CN2	A - 11	IC5	B - 4
CN3	M - 3	IC6	E - 4
		IC7	B - 5
IC14	M - 5	IC8	E - 5
IC15	L - 6	IC9	B - 6
IC16	L - 7	IC10	E - 6
IC17	L - 8	IC11	B - 7
IC18	L - 9	IC12	E - 7
IC19	L - 9	IC13	J - 4
IC20	L - 10		
IC21	L - 11	S1	B - 2
IC22	L - 11	S2	E - 2
IC23	L - 12	S3	B - 3
IC24	L - 13	S4	E - 3
IC25	L - 13	S5	B - 3
IC26	L - 14	S6	E - 3
IC27	L - 15	S7	B - 4
IC28	H - 6	S8	E - 4
IC29	K - 6	S9	B - 5
IC30	K - 6	S10	E - 5
IC31	H - 7	S11	B - 6
IC32	K - 7	S12	E - 6
IC33	K - 7		
IC34	H - 8	TP1	M - 1
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		
RV1	B - 2		
RV2	E - 2		
RV3	B - 2		
RV4	E - 2		
RV5	B - 3		
RV6	E - 3		
RV7	B - 4		
RV8	E - 4		
RV9	B - 5		
RV10	E - 5		
RV11	B - 6		
RV12	E - 6		
D1	M - 2		
E1	H - 2		
E2	H - 7		
E3	H - 15		
IC1	B - 2		
IC2	E - 2		
IC3	B - 3		

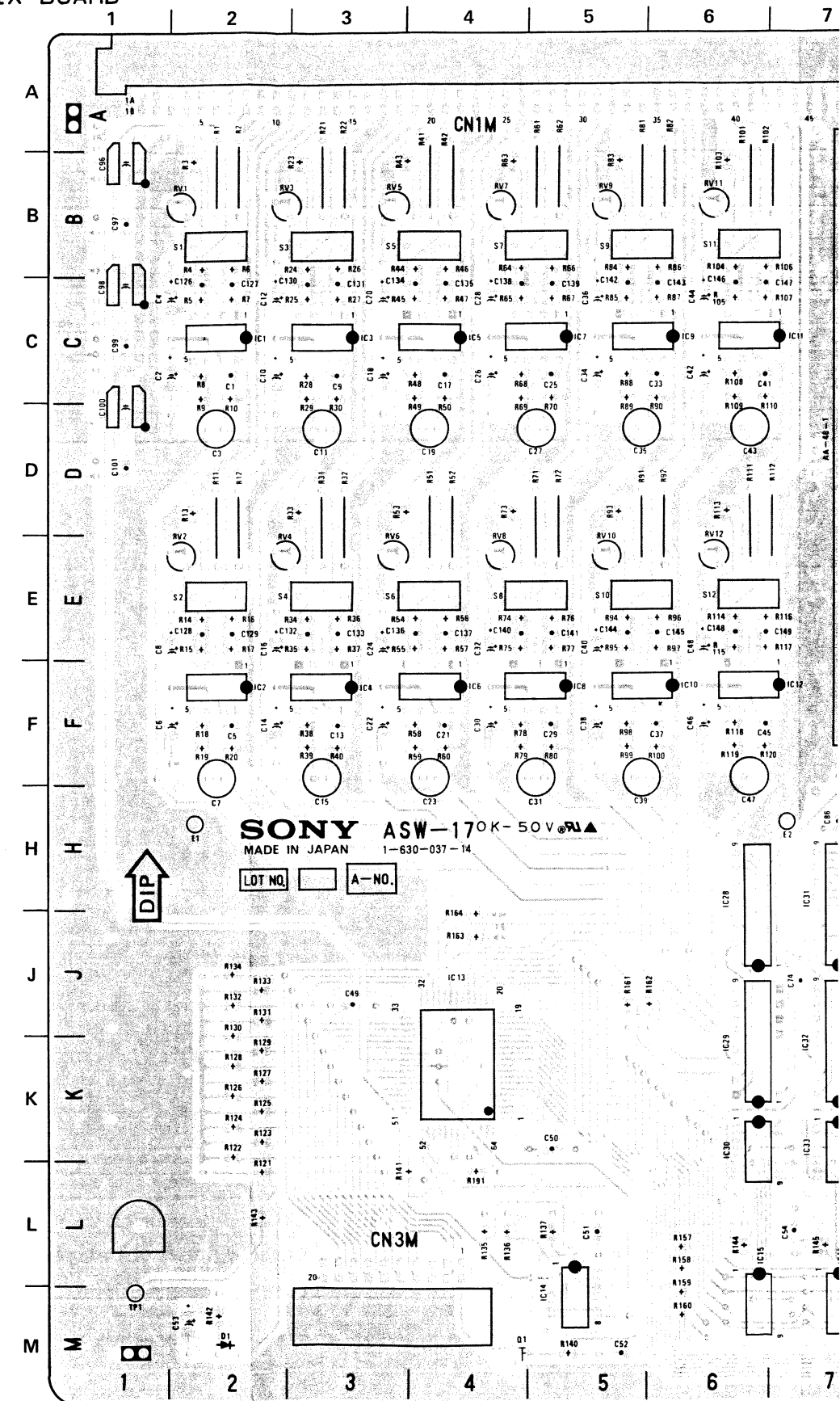
ASW-17 -COMPONENT SIDE-
1-630-037-11 (1)
BVS-A1212

ASW-17; AUDIO MATRIX BOARD

BVS-A1212

ASW-17 (1-630-037-14)

CN1M	A - 4	RV1	B - 2
CN2M	A - 11	RV2	E - 2
CN3M	M - 3	RV3	B - 2
		RV4	E - 2
		RV5	B - 3
		RV6	E - 3
		RV7	B - 4
		RV8	E - 4
		RV9	B - 5
		RV10	E - 5
		RV11	B - 6
		RV12	E - 6
D1	M - 2		
E1	H - 2	S1	B - 2
E2	H - 7	S2	E - 2
E3	H - 15	S3	B - 3
		S4	E - 3
		S5	B - 3
		S6	E - 3
		S7	B - 4
		S8	E - 4
		S9	B - 5
		S10	E - 5
		S11	B - 6
		S12	E - 6
		TP1	M - 1
IC1	B - 2		
IC2	E - 2		
IC3	B - 3		
IC4	E - 3		
IC5	B - 4		
IC6	E - 4		
IC7	B - 5		
IC8	E - 5		
IC9	B - 6		
IC10	E - 6		
IC11	B - 7		
IC12	E - 7		
IC13	J - 4		
IC14	M - 5		
IC15	L - 6		
IC16	L - 7		
IC17	L - 8		
IC18	L - 9		
IC19	L - 9		
IC20	L - 10		
IC21	L - 11		
IC22	L - 11		
IC23	L - 12		
IC24	L - 13		
IC25	L - 13		
IC26	L - 14		
IC27	L - 15		
IC28	H - 6		
IC29	K - 6		
IC30	K - 6		
IC31	H - 7		
IC32	K - 7		
IC33	K - 7		
IC34	H - 8		
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		
Q1	M - 4		



ASW-17; AUDIO MATRIX BOARD

BVS-A1212

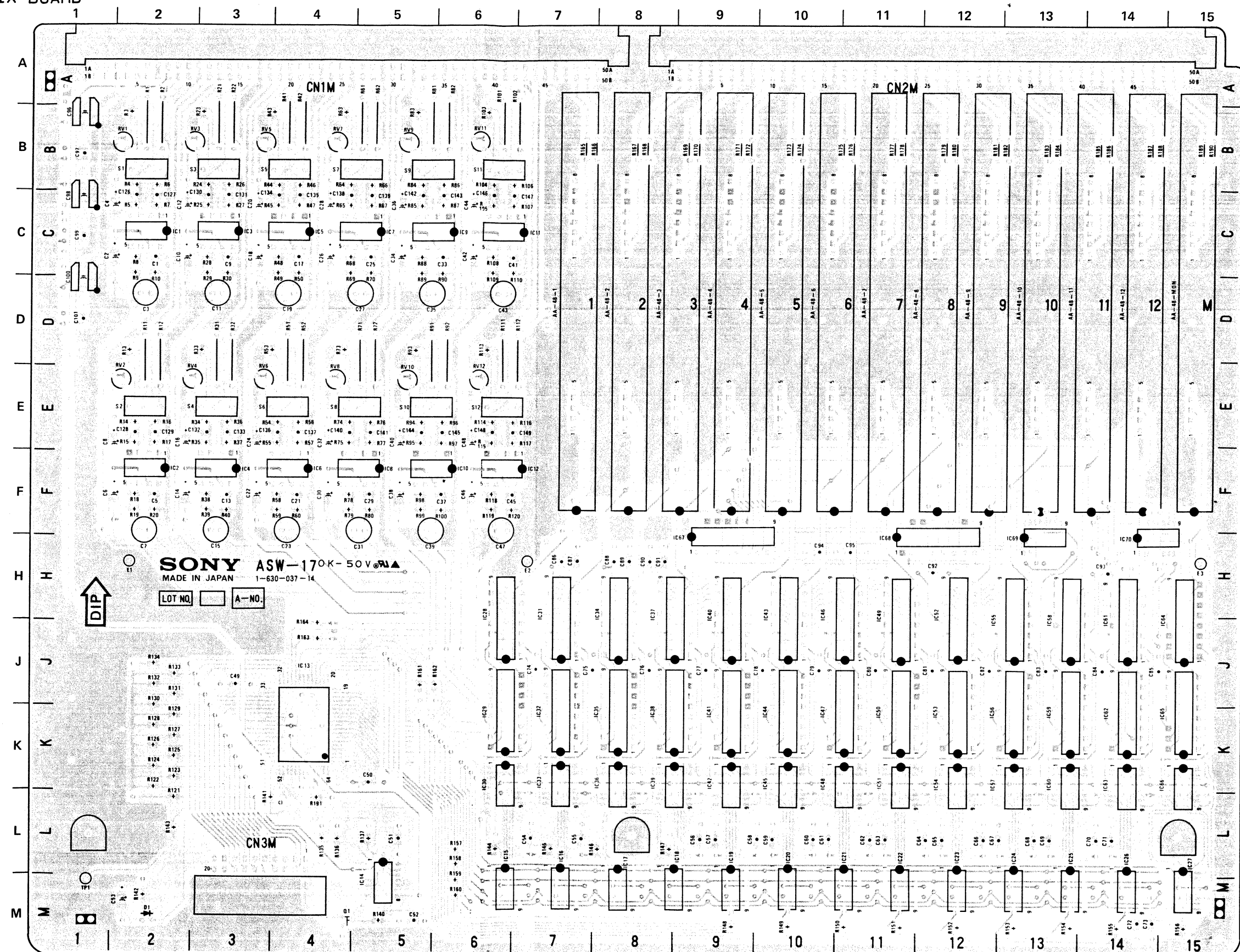
ASW-17 (1-630-037-14)

CN1M	A - 4	RV1	B - 2
CN2M	A - 11	RV2	E - 2
CN3M	M - 3	RV3	B - 2
		RV4	E - 2
		RV5	B - 3
		RV6	E - 3
		RV7	B - 4
		RV8	E - 4
		RV9	B - 5
		RV10	E - 5
		RV11	B - 6
		RV12	E - 6

D1	M - 2
E1	H - 2
E2	H - 7
E3	H - 15

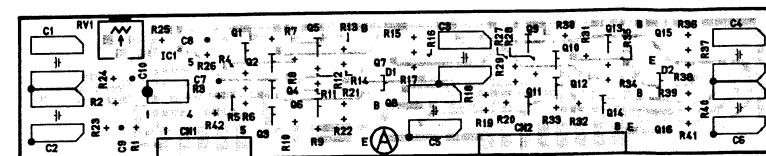
IC1	B - 2	S1	B - 2
IC2	E - 2	S2	F - 2
IC3	B - 3	S3	B - 3
IC4	E - 3	S4	B - 3
IC5	B - 4	S5	B - 3
IC6	E - 4	S6	E - 3
IC7	B - 5	S7	B - 4
IC8	E - 5	S8	F - 4
IC9	B - 6	S9	B - 5
IC10	E - 6	S10	F - 5
IC11	B - 7	S11	B - 6
IC12	E - 7	S12	F - 6
IC13	J - 4	TP1	M - 1
IC14	M - 5		
IC15	L - 6		
IC16	L - 7		
IC17	L - 8		
IC18	L - 9		
IC19	L - 9		
IC20	L - 10		
IC21	L - 11		
IC22	L - 11		
IC23	L - 12		
IC24	L - 13		
IC25	L - 13		
IC26	L - 14		
IC27	L - 15		
IC28	H - 6		
IC29	K - 6		
IC30	K - 6		
IC31	H - 7		
IC32	K - 7		
IC33	K - 7		
IC34	H - 8		
IC35	K - 8		
IC36	K - 8		
IC37	H - 8		
IC38	K - 8		
IC39	K - 8		
IC40	H - 9		
IC41	K - 9		
IC42	K - 9		
IC43	H - 10		
IC44	K - 10		
IC45	K - 10		
IC46	H - 10		
IC47	K - 10		
IC48	K - 10		
IC49	H - 11		
IC50	K - 11		
IC51	K - 11		
IC52	H - 12		
IC53	K - 12		
IC54	K - 12		
IC55	H - 12		
IC56	K - 12		
IC57	K - 12		
IC58	H - 13		
IC59	K - 13		
IC60	K - 13		
IC61	H - 14		
IC62	K - 14		
IC63	K - 14		
IC64	H - 15		
IC65	K - 15		
IC66	K - 15		
IC67	H - 9		
IC68	H - 11		
IC69	H - 13		
IC70	H - 14		

Q1 M - 4

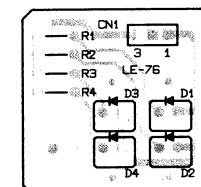


ASW-17 -COMPONENT SIDE-
1-630-037-14 (1)
BVS-A1212

AA-48; AUDIO AMPLIFIER BOARD
LE-76; LED BOARD

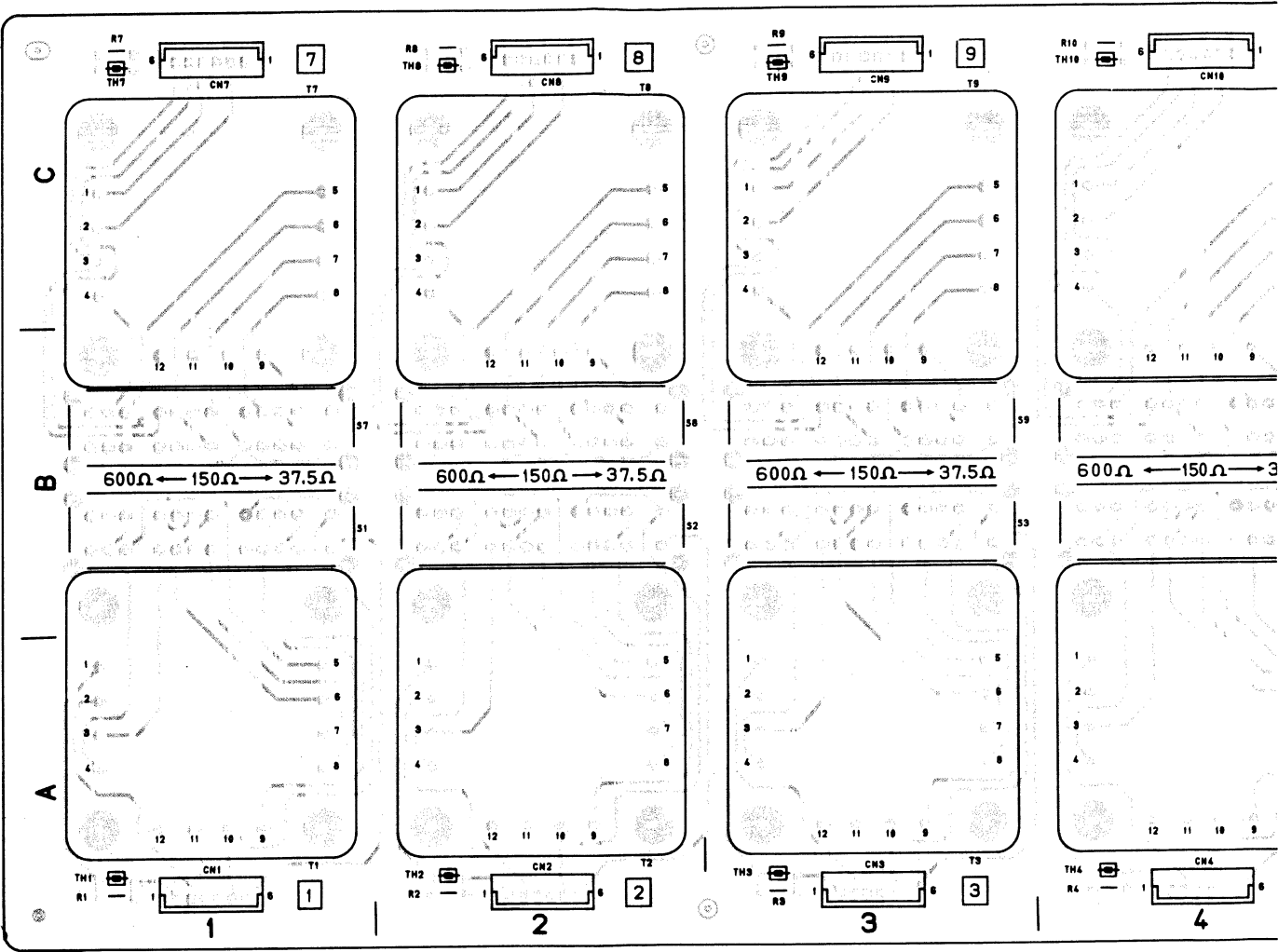


AA-48 -A SIDE-
1-630-043-11, 12 (1)
BVS-A1201
BVS-V1201

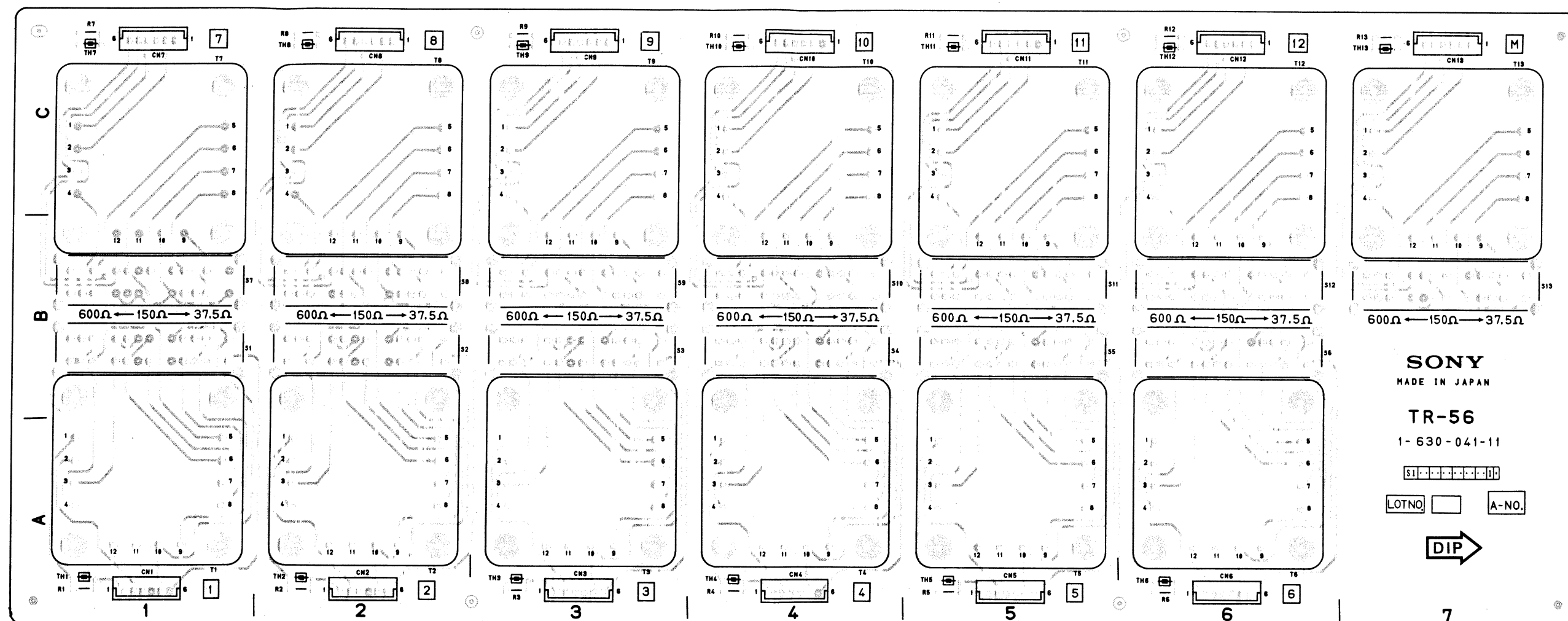


LE-76
-COMPONENT SIDE-
1-631-489-11 (1)
BVS-A1201
BVS-V1201
BVS-A1212
BVS-V1212

TR-56; TRANS BOARD



TR-56; TRANS BOARD

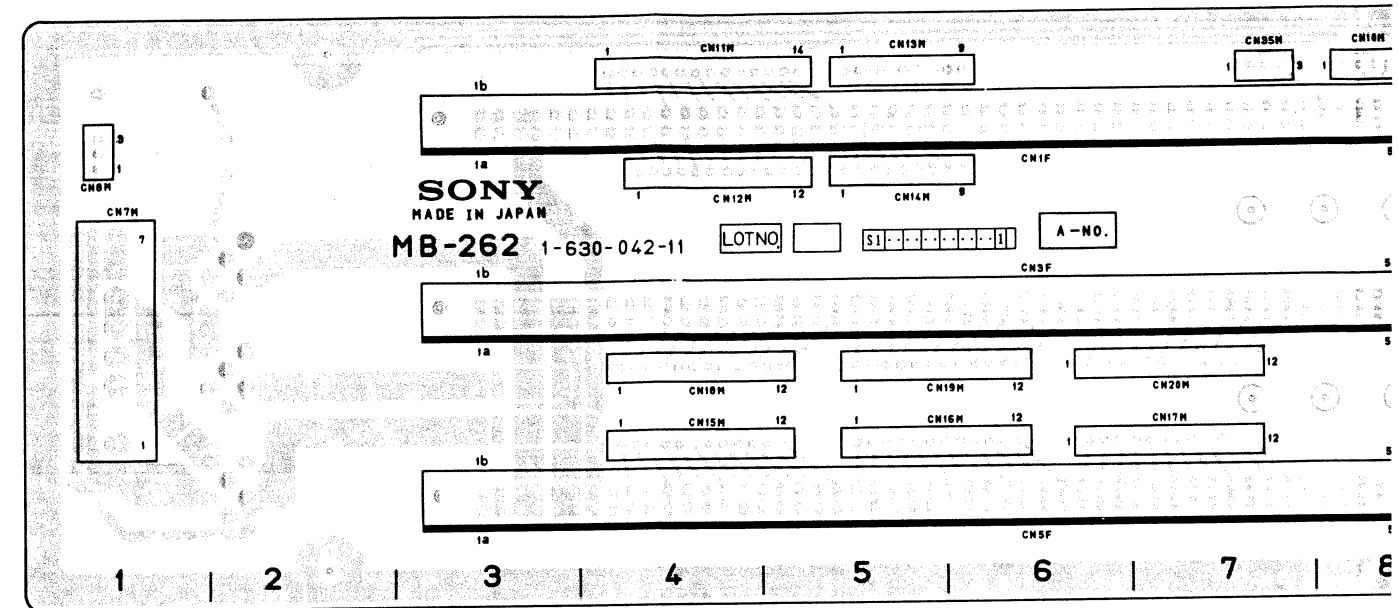


TR-56 -COMPONENT SIDE-
1-630-041-11 (1)
BVS-A1212

MB-262 MB-262

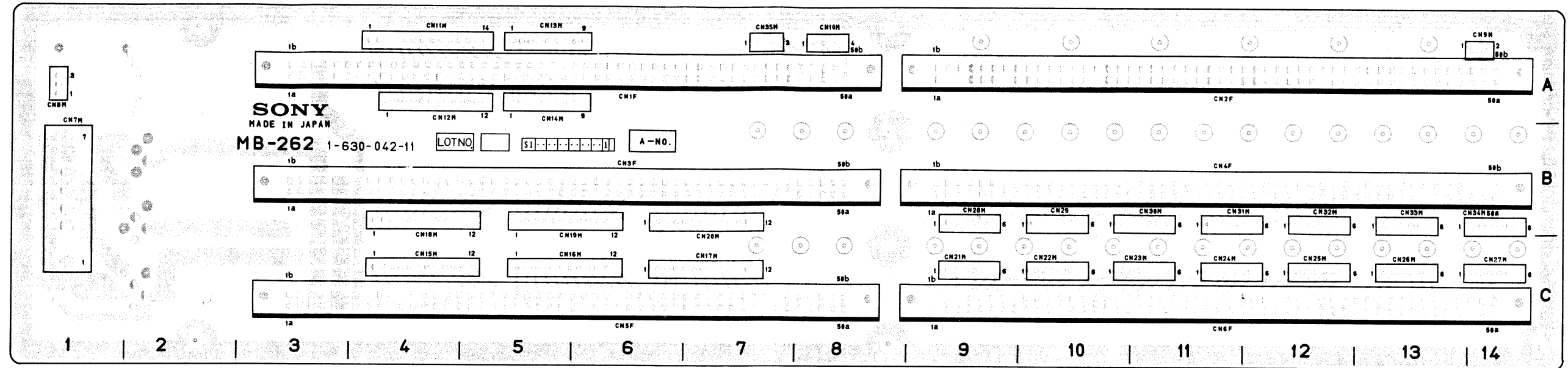
MB-262; MOTHER BOARD

S/N 10001 TO 10035 (E)
S/N 20001 AND HIGHER (J)



MB-262; MOTHER BOARD

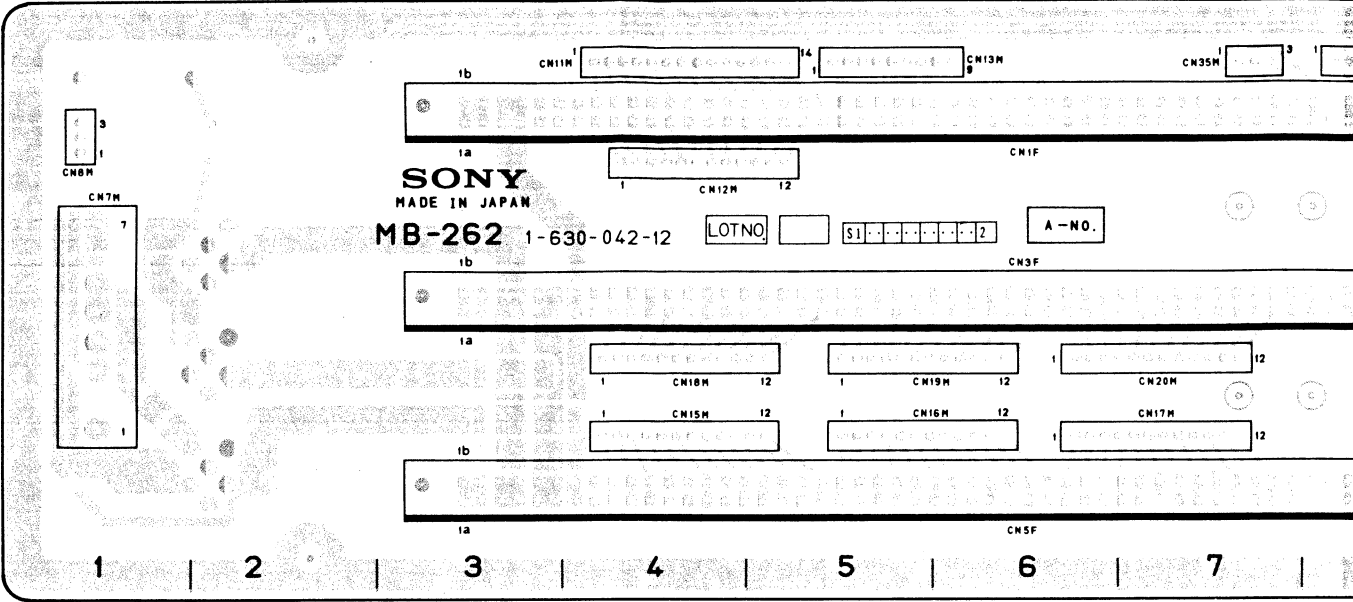
S/N 10001 TO 10035 (E)
S/N 20001 AND HIGHER (J)



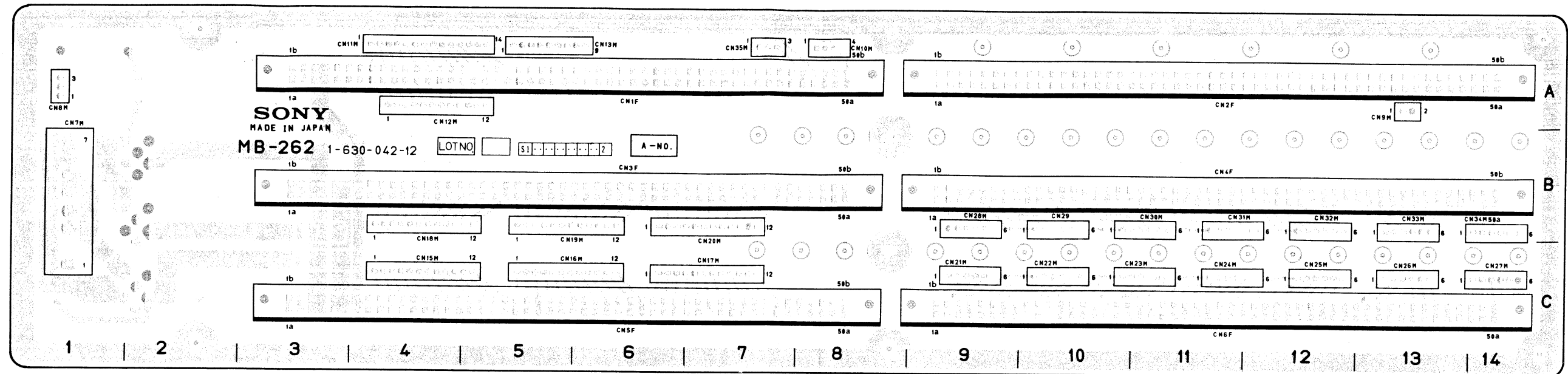
MB-262 -COMPONENT SIDE-
1-630-042-11 (1)
BVS-V1212

MB-262 MB-262

MB-262; MOTHER BOARD S/N 10036 AND HIGHER (E)

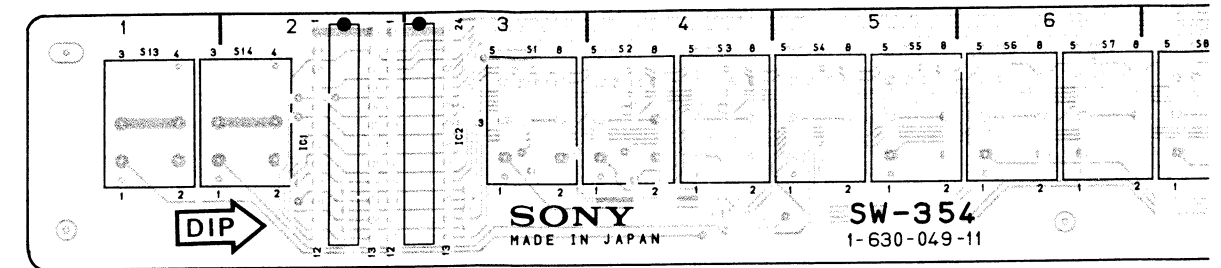


MB-262; MOTHER BOARD S/N 10036 AND HIGHER (E)

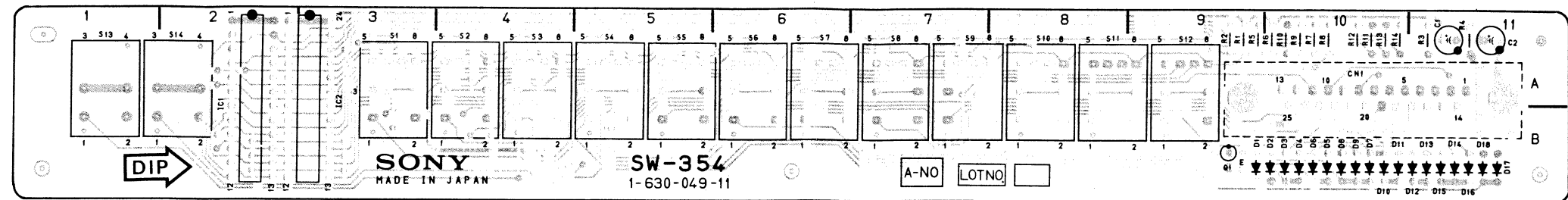


MB-262 -COMPONENT SIDE-
1-630-042-12 (1)
BVS-A1212

BKS-R1210
SW-354; SWITCH BOARD



BKS-R1210
SW-354; SWITCH BOARD




SW-354 -COMPONENT SIDE-
1-630-049-11 (1)
BVS-V1201
BKS-R1210

SECTION 9

SPARE PARTS AND FIXTURE

9-1. PARTS INFORMATION

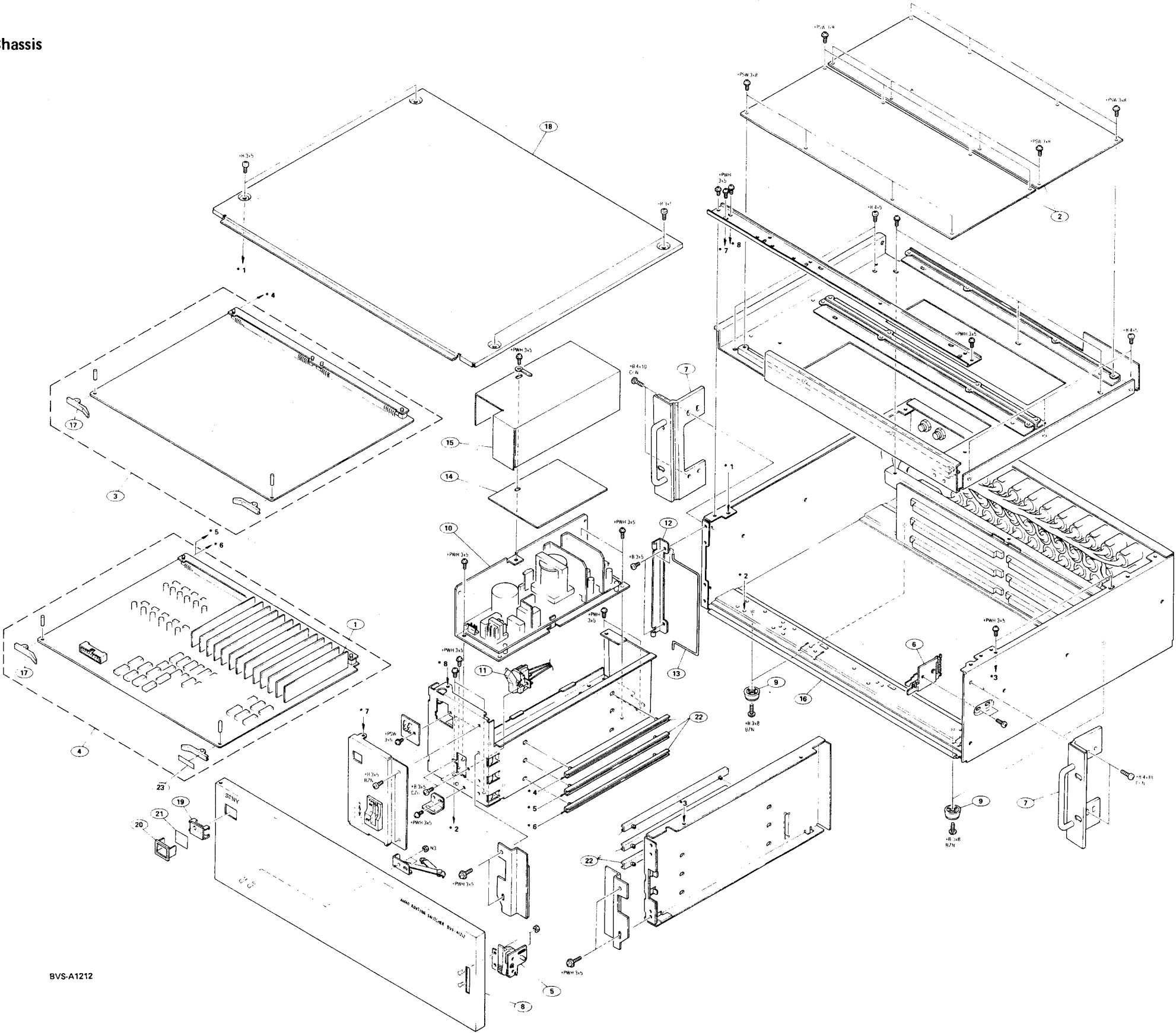
- (1) The shaded and  -marked components are critical to safety.
Replace only with the same components as specified.
- (2) Replacement parts supplied from the Sony Parts Center will sometimes have a different shape and outside view from the parts which are used in the unit. This is due to "accommodating improved parts and/or engineering changes" or "standardization of genuine parts".
This manual's exploded views and electrical spare parts lists indicate the part numbers of "the present standardized genuine parts".
Regarding engineering part changes by our engineering department, refer to Sony service bulletins and service manual supplements.
- (3) The parts marked with "s" in the SP column of the exploded views and electrical spare parts lists are normally stocked for replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.
- (4) Item with no part number and/or no description are not stocked because they are seldom required for routine service.
- (5) (T) after a spring description is shown on the exploded views in order to indicate the number of a spring turn required for the use.
(Example)
Spring, tension (24T); This spring must be cut at its 24th turn for actual use.

9-2. EXPLODED VIEW

. Exploded views are composed of the following blocks.

- (1) Chassis
- (2) Rear Panel
- (3) BKS-R1210

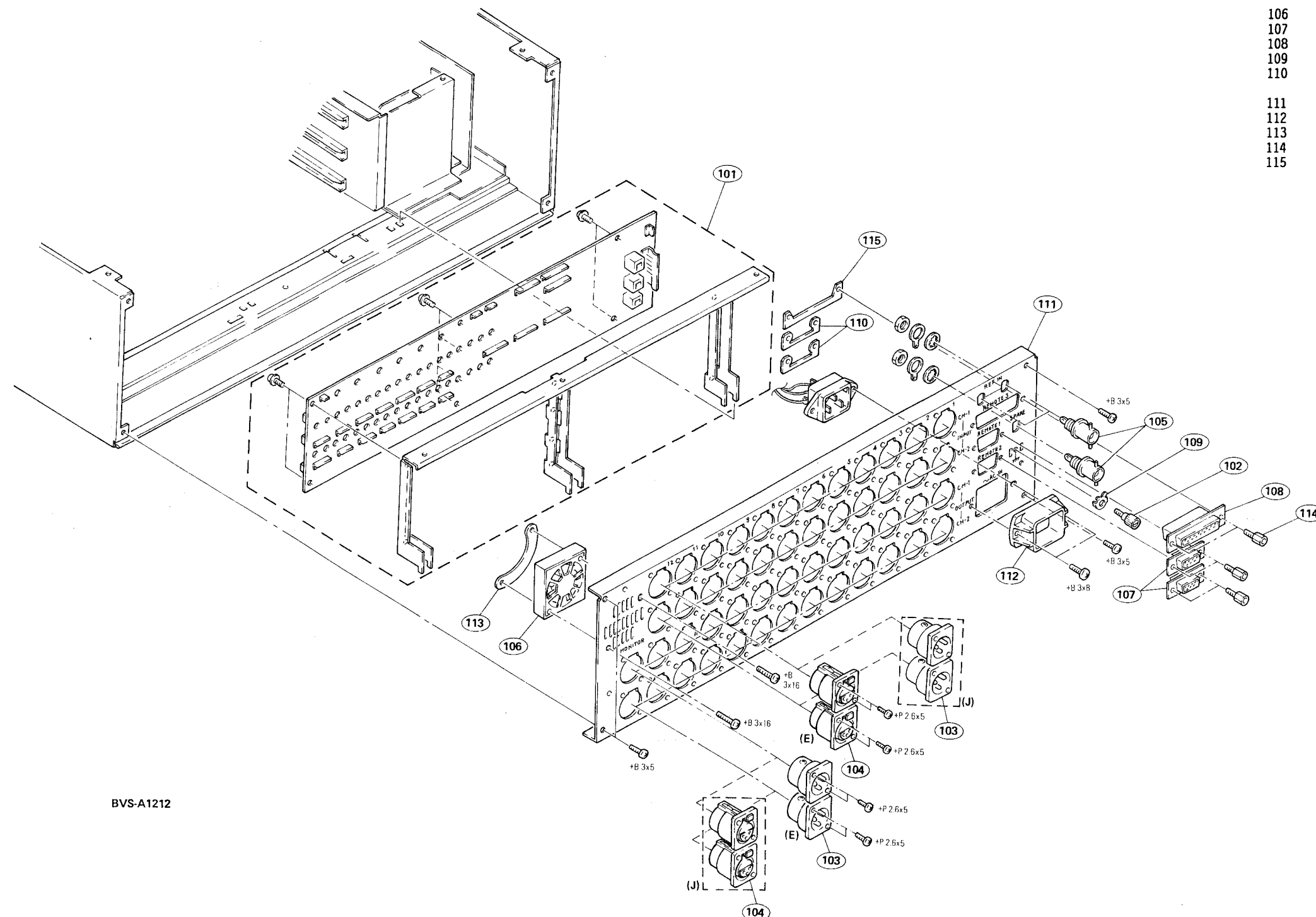
Chassis



BVS-A1212

No.	Part No.	SP	Description
1	A-6261-054-A	o	MOUNTED CIRCUIT BOARD, AA-48
2	A-6266-175-A	o	MOUNTED CIRCUIT BOARD, TR-56
3	A-6267-177-A	o	MOUNTED CIRCUIT BOARD, CPU-68
4	A-6279-468-A	o	ASW-17 ASSY
5	A-6279-484-A	o	HANDLE ASSY, DOOR
6	X-2127-216-1	o	LOCK ASSY, DOOR
7	X-2127-218-1	o	ANGLE ASSY (3U), RACK
8	X-2127-220-1	o	PANEL (A2) ASSY, F
9	X-3556-910-0	o	FOOT ASSY, MF
10	Δ1-413-461-11	s	REGULATOR, SWITCHING(ED-110)
11	Δ1-570-384-11	s	SWITCH, SEESAW(AC POWER)
12	2-139-012-01	o	HINGE (3U)
13	2-139-020-01	o	SHAFT (3U) HINGE
14	2-139-022-01	o	SHEET, INSULATING
15	2-139-027-01	o	CASE(B), SHIELD
16	2-139-028-01	o	CHASSIS
17	2-182-909-02	o	LEVER, PC BOARD
18	2-182-935-02	o	PLATE (D305), TOP
19	2-249-303-01	o	WINDOW (2), REMOTE CONTROL
20	2-249-304-02	o	FRAME (2), WINDOW, REMOTE CONTROL
21	2-249-353-01	o	COVER, LAMP
22	3-673-676-21	o	RAIL, PC BOARD GUIDE
23	2-139-014-61	o	LABEL, PC BOARD NAME(CH-1)
	2-139-014-71	o	LABEL, PC BOARD NAME(CH-2)

Rear Panel

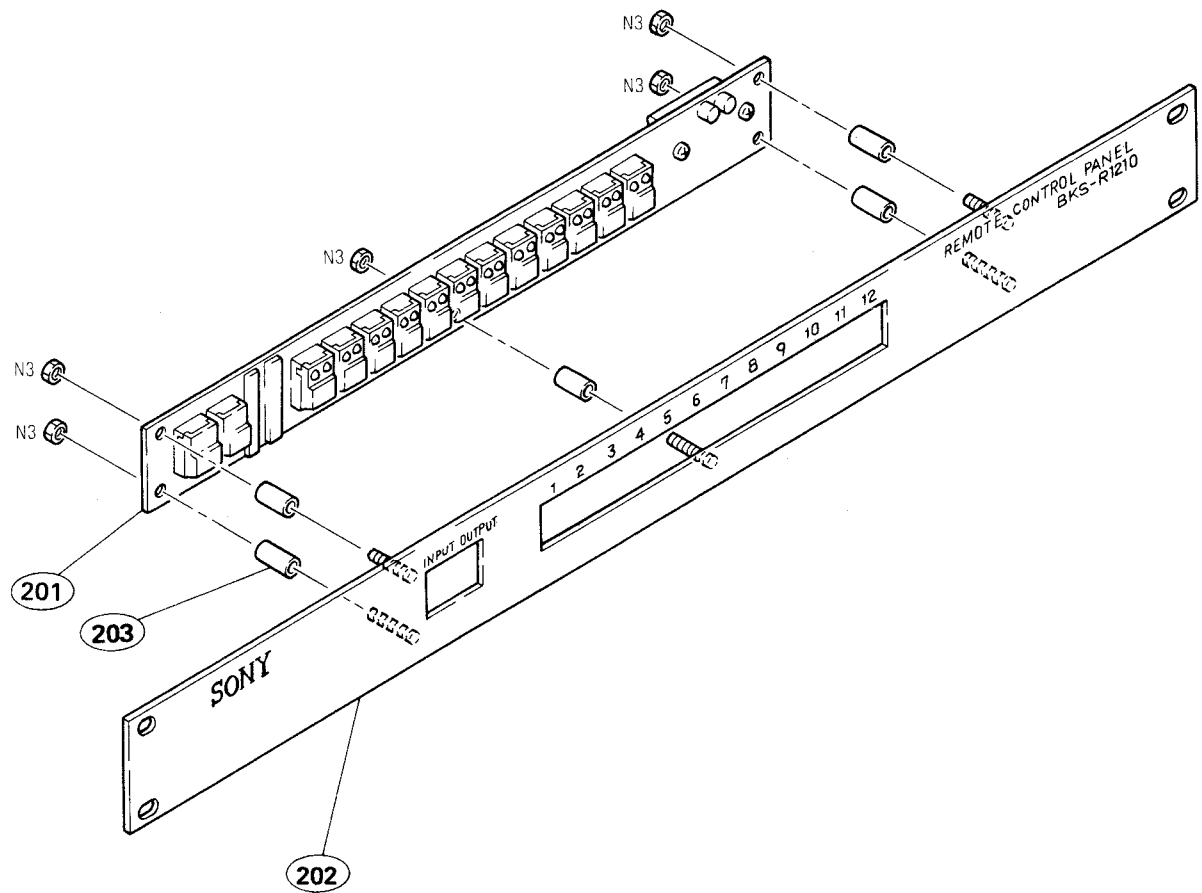


Ref. No. or Q'ty	Part No.	SP Description
101	A-6266-174-A	o MOUNTED CIRCUIT BOARD, MB-262
102	X-2068-004-0	s TERMINAL ASSY
103	1-509-176-51	s CONNECTOR (RECEPTACLE) 3P
104	1-509-184-51	s CONNECTOR (RECEPTACLE) 3P
105	1-509-891-00	s CONNECTOR, BNC (RECEPTACLE)
106	1-541-638-11	s MOTOR, DC FAN
107	1-563-846-11	s SOCKET, D-SUB CONNECTOR 9P
108	1-563-817-21	s SOCKET, D-SUB CONNECTOR 25P
109	2-068-008-00	s WASHER
110	2-139-018-01	s NUT (D-SUB 9P), PLATE
111	2-139-031-01	o PANEL, REAR
112	2-990-241-01	o HOLDER (A), PLUG
113	3-651-491-00	o NUT, (AC), PLATE
114	3-668-459-00	s SCREW, CONNECTOR
115	4-604-023-11	o NUT (D-SUB), PLATE

BVS-A1212

BKS-R1210

Ref. No. or Q'ty	Part No.	SP Description
201	A-6267-176-A	o MOUNTED CIRCUIT BOARD, SW-354
202	2-130-286-01	o PANEL, REMOTE CONTROL
203	2-130-283-01	o SPACER



9-3. ELECTRICAL PARTS LIST

ABBREVIATIONS

Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
C□□, CT□□	CAPACITOR	IC□□	IC	Q□□	TRANSISTOR
CF□□	CERAMIC FILTER	J□□	JACK	R□□, RV□□	RESISTOR
CN□□	CONNECTOR	L□□	INDUCTOR	RY□□	RELAY
D□□	DIODE	M□□	MOTOR	S□□, SW□□	SWITCH
DL□□	DELAY LINE	ME□□	METER	SB□□	SOLAR BATTERY
F□□	FUSE	MIC□□	MICROPHONE	T□□	TRANSFORMER
FB□□	FERRITE BEAD	PG□□	PG COIL	TH□□	THERMISTOR
FL□□	FILTER	PL□□	LAMP	X□□	CRYSTAL
H□□	HEAD	PM□□	SOLENOIDE		

All capacitors are in micro farads unless otherwise specified.

All inductors are in micro henries unless otherwise specified.

All resistors are in ohms.

General Purpose Electrical Parts List

Parts that are not listed in the "reference numbers order list" are shown in following list.
Reference numbers are omitted.

RESISTOR, CHIP METAL

Part No. SP Description

1-216-603-11	s	RES, CHIP METAL	10	1%	1/10W
1-216-605-11	s	RES, CHIP METAL	12	1%	1/10W
1-216-609-11	s	RES, CHIP METAL	18	1%	1/10W
1-216-611-11	s	RES, CHIP METAL	22	1%	1/10W
1-216-614-11	s	RES, CHIP METAL	30	1%	1/10W
1-216-617-11	s	RES, CHIP METAL	39	1%	1/10W
1-216-619-11	s	RES, CHIP METAL	47	1%	1/10W
1-216-620-11	s	RES, CHIP METAL	51	1%	1/10W
1-216-623-11	s	RES, CHIP METAL	68	1%	1/10W
1-216-624-11	s	RES, CHIP METAL	75	1%	1/10W
1-216-625-11	s	RES, CHIP METAL	82	1%	1/10W
1-216-626-11	s	RES, CHIP METAL	91	1%	1/10W
1-216-627-11	s	RES, CHIP METAL	100	1%	1/10W
1-216-629-11	s	RES, CHIP METAL	120	1%	1/10W
1-216-631-11	s	RES, CHIP METAL	150	1%	1/10W
1-216-633-11	s	RES, CHIP METAL	180	1%	1/10W
1-216-634-11	s	RES, CHIP METAL	200	1%	1/10W
1-216-635-11	s	RES, CHIP METAL	220	1%	1/10W
1-216-636-11	s	RES, CHIP METAL	240	1%	1/10W
1-216-637-11	s	RES, CHIP METAL	270	1%	1/10W
1-216-638-11	s	RES, CHIP METAL	300	1%	1/10W
1-216-639-11	s	RES, CHIP METAL	330	1%	1/10W
1-216-640-11	s	RES, CHIP METAL	360	1%	1/10W
1-216-641-11	s	RES, CHIP METAL	390	1%	1/10W
1-216-642-11	s	RES, CHIP METAL	430	1%	1/10W
1-216-643-11	s	RES, CHIP METAL	470	1%	1/10W
1-216-644-11	s	RES, CHIP METAL	510	1%	1/10W
1-216-645-11	s	RES, CHIP METAL	560	1%	1/10W
1-216-647-11	s	RES, CHIP METAL	680	1%	1/10W
1-216-648-11	s	RES, CHIP METAL	750	1%	1/10W
1-216-649-11	s	RES, CHIP METAL	820	1%	1/10W
1-216-650-11	s	RES, CHIP METAL	910	1%	1/10W
1-216-651-11	s	RES, CHIP METAL	1.0k	1%	1/10W
1-216-652-11	s	RES, CHIP METAL	1.1k	1%	1/10W
1-216-653-11	s	RES, CHIP METAL	1.2k	1%	1/10W
1-216-655-11	s	RES, CHIP METAL	1.5k	1%	1/10W
1-216-656-11	s	RES, CHIP METAL	1.6k	1%	1/10W
1-216-657-11	s	RES, CHIP METAL	1.8k	1%	1/10W
1-216-658-11	s	RES, CHIP METAL	2k	1%	1/10W
1-216-659-11	s	RES, CHIP METAL	2.2k	1%	1/10W
1-216-660-11	s	RES, CHIP METAL	2.4k	1%	1/10W
1-216-661-11	s	RES, CHIP METAL	2.7k	1%	1/10W
1-216-662-11	s	RES, CHIP METAL	3k	1%	1/10W
1-216-663-11	s	RES, CHIP METAL	3.3k	1%	1/10W
1-216-664-11	s	RES, CHIP METAL	3.5k	1%	1/10W
1-216-665-11	s	RES, CHIP METAL	3.9k	1%	1/10W
1-216-666-11	s	RES, CHIP METAL	4.3k	1%	1/10W
1-216-667-11	s	RES, CHIP METAL	4.7k	1%	1/10W
1-216-668-11	s	RES, CHIP METAL	5.1k	1%	1/10W
1-216-669-11	s	RES, CHIP METAL	5.6k	1%	1/10W

RESISTOR, CHIP METAL

Part No. SP Description

1-216-670-11	s	RES, CHIP METAL	6.2k	1%	1/10W
1-216-671-11	s	RES, CHIP METAL	6.8k	1%	1/10W
1-216-672-11	s	RES, CHIP METAL	7.5k	1%	1/10W
1-216-673-11	s	RES, CHIP METAL	8.2k	1%	1/10W
1-216-674-11	s	RES, CHIP METAL	9.1k	1%	1/10W
1-216-675-11	s	RES, CHIP METAL	10k	1%	1/10W
1-216-676-11	s	RES, CHIP METAL	11k	1%	1/10W
1-216-677-11	s	RES, CHIP METAL	12k	1%	1/10W
1-216-678-11	s	RES, CHIP METAL	13k	1%	1/10W
1-216-679-11	s	RES, CHIP METAL	15k	1%	1/10W
1-216-680-11	s	RES, CHIP METAL	16k	1%	1/10W
1-216-681-11	s	RES, CHIP METAL	18k	1%	1/10W
1-216-682-11	s	RES, CHIP METAL	20k	1%	1/10W
1-216-683-11	s	RES, CHIP METAL	22k	1%	1/10W
1-216-684-11	s	RES, CHIP METAL	24k	1%	1/10W
1-216-685-11	s	RES, CHIP METAL	27k	1%	1/10W
1-216-686-11	s	RES, CHIP METAL	30k	1%	1/10W
1-216-687-11	s	RES, CHIP METAL	33k	1%	1/10W
1-216-688-11	s	RES, CHIP METAL	36k	1%	1/10W
1-216-689-11	s	RES, CHIP METAL	39k	1%	1/10W
1-216-690-11	s	RES, CHIP METAL	43k	1%	1/10W
1-216-691-11	s	RES, CHIP METAL	49k	1%	1/10W
1-216-692-11	s	RES, CHIP METAL	51k	1%	1/10W
1-216-693-11	s	RES, CHIP METAL	56k	1%	1/10W
1-216-694-11	s	RES, CHIP METAL	62k	1%	1/10W
1-216-695-11	s	RES, CHIP METAL	68k	1%	1/10W
1-216-696-11	s	RES, CHIP METAL	75k	1%	1/10W
1-216-697-11	s	RES, CHIP METAL	82k	1%	1/10W
1-216-698-11	s	RES, CHIP METAL	91k	1%	1/10W
1-216-699-11	s	RES, CHIP METAL	100k	1%	1/10W

ASW-17 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	2-182-909-01	o LEVER, PC BOARD
2pcs	7-626-320-11	o PIN, SPRING 3x8
C1	1-163-109-00	s CERAMIC 47PF 5% 50V
C2	1-135-092-21	s TANTAL 3.3uF 10% 16V
C3	1-124-290-00	s ELECT 47uF 20% 10V
C4	1-135-092-21	s TANTAL 3.3uF 10% 16V
C5	1-163-109-00	s CERAMIC 47PF 5% 50V
C6	1-135-092-21	s TANTAL 3.3uF 10% 16V
C7	1-124-290-00	s ELECT 47uF 20% 10V
C8	1-135-092-21	s TANTAL 3.3uF 10% 16V
C9	1-163-109-00	s CERAMIC 47PF 5% 50V
C10	1-135-092-21	s TANTAL 3.3uF 10% 16V
C11	1-124-290-00	s ELECT 47uF 20% 10V
C12	1-135-092-21	s TANTAL 3.3uF 10% 16V
C13	1-163-109-00	s CERAMIC 47PF 5% 50V
C14	1-135-092-21	s TANTAL 3.3uF 10% 16V
C15	1-124-290-00	s ELECT 47uF 20% 10V
C16	1-135-092-21	s TANTAL 3.3uF 10% 16V
C17	1-163-109-00	s CERAMIC 47PF 5% 50V
C18	1-135-092-21	s TANTAL 3.3uF 10% 16V
C19	1-124-290-00	s ELECT 47uF 20% 10V
C20	1-135-092-21	s TANTAL 3.3uF 10% 16V
C21	1-163-109-00	s CERAMIC 47PF 5% 50V
C22	1-135-092-21	s TANTAL 3.3uF 10% 16V
C23	1-124-290-00	s ELECT 47uF 20% 10V
C24	1-135-092-21	s TANTAL 3.3uF 10% 16V
C25	1-163-109-00	s CERAMIC 47PF 5% 50V
C26	1-135-092-21	s TANTAL 3.3uF 10% 16V
C27	1-124-290-00	s ELECT 47uF 20% 10V
C28	1-135-092-21	s TANTAL 3.3uF 10% 16V
C29	1-163-109-00	s CERAMIC 47PF 5% 50V
C30	1-135-092-21	s TANTAL 3.3uF 10% 16V
C31	1-124-290-00	s ELECT 47uF 20% 10V
C32	1-135-092-21	s TANTAL 3.3uF 10% 16V
C33	1-163-109-00	s CERAMIC 47PF 5% 50V
C34	1-135-092-21	s TANTAL 3.3uF 10% 16V
C35	1-124-290-00	s ELECT 47uF 20% 10V
C36	1-135-092-21	s TANTAL 3.3uF 10% 16V
C37	1-163-109-00	s CERAMIC 47PF 5% 50V
C38	1-135-092-21	s TANTAL 3.3uF 10% 16V
C39	1-124-290-00	s ELECT 47uF 20% 10V
C40	1-135-092-21	s TANTAL 3.3uF 10% 16V
C41	1-163-109-00	s CERAMIC 47PF 5% 50V
C42	1-135-092-21	s TANTAL 3.3uF 10% 16V
C43	1-124-290-00	s ELECT 47uF 20% 10V
C44	1-135-092-21	s TANTAL 3.3uF 10% 16V
C45	1-163-109-00	s CERAMIC 47PF 5% 50V
C46	1-135-092-21	s TANTAL 3.3uF 10% 16V
C47	1-124-290-00	s ELECT 47uF 20% 10V
C48	1-135-092-21	s TANTAL 3.3uF 10% 16V
C49	1-163-038-00	s CERAMIC 0.1 25V
C50	1-163-038-00	s CERAMIC 0.1 25V
C51	1-163-038-00	s CERAMIC 0.1 25V
C52	1-163-038-00	s CERAMIC 0.1 25V
C53	1-135-092-21	s TANTAL 3.3uF 10% 16V
C54	1-163-038-00	s CERAMIC 0.1 25V
C55	1-163-038-00	s CERAMIC 0.1 25V
C56	1-163-038-00	s CERAMIC 0.1 25V

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C57	1-163-038-00	s CERAMIC 0.1 25V
C58	1-163-038-00	s CERAMIC 0.1 25V
C59	1-163-038-00	s CERAMIC 0.1 25V
C60	1-163-038-00	s CERAMIC 0.1 25V
C61	1-163-038-00	s CERAMIC 0.1 25V
C62	1-163-038-00	s CERAMIC 0.1 25V
C63	1-163-038-00	s CERAMIC 0.1 25V
C64	1-163-038-00	s CERAMIC 0.1 25V
C65	1-163-038-00	s CERAMIC 0.1 25V
C66	1-163-038-00	s CERAMIC 0.1 25V
C67	1-163-038-00	s CERAMIC 0.1 25V
C68	1-163-038-00	s CERAMIC 0.1 25V
C69	1-163-038-00	s CERAMIC 0.1 25V
C70	1-163-038-00	s CERAMIC 0.1 25V
C71	1-163-038-00	s CERAMIC 0.1 25V
C72	1-163-038-00	s CERAMIC 0.1 25V
C73	1-163-038-00	s CERAMIC 0.1 25V
C74	1-163-038-00	s CERAMIC 0.1 25V
C75	1-163-038-00	s CERAMIC 0.1 25V
C76	1-163-038-00	s CERAMIC 0.1 25V
C77	1-163-038-00	s CERAMIC 0.1 25V
C78	1-163-038-00	s CERAMIC 0.1 25V
C79	1-163-038-00	s CERAMIC 0.1 25V
C80	1-163-038-00	s CERAMIC 0.1 25V
C81	1-163-038-00	s CERAMIC 0.1 25V
C82	1-163-038-00	s CERAMIC 0.1 25V
C83	1-163-038-00	s CERAMIC 0.1 25V
C84	1-163-038-00	s CERAMIC 0.1 25V
C85	1-163-038-00	s CERAMIC 0.1 25V
C86	1-163-038-00	s CERAMIC 0.1 25V
C87	1-163-038-00	s CERAMIC 0.1 25V
C88	1-163-038-00	s CERAMIC 0.1 25V
C89	1-163-038-00	s CERAMIC 0.1 25V
C90	1-163-038-00	s CERAMIC 0.1 25V
C91	1-163-038-00	s CERAMIC 0.1 25V
C92	1-163-038-00	s CERAMIC 0.1 25V
C93	1-163-038-00	s CERAMIC 0.1 25V
C94	1-163-038-00	s CERAMIC 0.1 25V
C95	1-163-038-00	s CERAMIC 0.1 25V
C96	1-126-396-11	s ELECT 47uF 20% 16V
C97	1-163-038-00	s CERAMIC 0.1 25V
C98	1-126-396-11	s ELECT 47uF 20% 16V
C99	1-163-038-00	s CERAMIC 0.1 25V
C100	1-126-392-11	s ELECT 100uF 20% 6.3V
C101	1-163-038-00	s CERAMIC 0.1 25V
CN1	1-566-986-11	o CONNECTOR, MULTI 100P
CN2	1-566-986-11	o CONNECTOR, MULTI 100P
CN3	1-564-359-00	o HEADER, CONNECTOR 20P
D1	8-719-400-35	s LN35BP
IC1	8-759-905-42	s NE5534P
IC2	8-759-905-42	s NE5534P
IC3	8-759-905-42	s NE5534P
IC4	8-759-905-42	s NE5534P
IC5	8-759-905-42	s NE5534P
IC6	8-759-905-42	s NE5534P
IC7	8-759-905-42	s NE5534P
IC8	8-759-905-42	s NE5534P
IC9	8-759-905-42	s NE5534P

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC10	8-759-905-42	s NE5534P
IC11	8-759-905-42	s NE5534P
IC12	8-759-905-42	s NE5534P
IC13	8-759-938-68	s CXD1095Q
IC14	8-759-204-94	s TC74HC00F
IC15	8-759-925-92	s SN74HC75NS
IC16	8-759-925-92	s SN74HC75NS
IC17	8-759-925-92	s SN74HC75NS
IC18	8-759-925-92	s SN74HC75NS
IC19	8-759-925-92	s SN74HC75NS
IC20	8-759-925-92	s SN74HC75NS
IC21	8-759-925-92	s SN74HC75NS
IC22	8-759-925-92	s SN74HC75NS
IC23	8-759-925-92	s SN74HC75NS
IC24	8-759-925-92	s SN74HC75NS
IC25	8-759-925-92	s SN74HC75NS
IC26	8-759-925-92	s SN74HC75NS
IC27	8-759-925-92	s SN74HC75NS
IC28	8-759-999-83	s DG408DJ
IC29	8-759-999-83	s DG408DJ
IC30	8-759-925-92	s SN74HC75NS
IC31	8-759-999-83	s DG408DJ
IC32	8-759-999-83	s DG408DJ
IC33	8-759-925-92	s SN74HC75NS
IC34	8-759-999-83	s DG408DJ
IC35	8-759-999-83	s DG408DJ
IC36	8-759-925-92	s SN74HC75NS
IC37	8-759-999-83	s DG408DJ
IC38	8-759-999-83	s DG408DJ
IC39	8-759-925-92	s SN74HC75NS
IC40	8-759-999-83	s DG408DJ
IC41	8-759-999-83	s DG408DJ
IC42	8-759-925-92	s SN74HC75NS
IC43	8-759-999-83	s DG408DJ
IC44	8-759-999-83	s DG408DJ
IC45	8-759-925-92	s SN74HC75NS
IC46	8-759-999-83	s DG408DJ
IC47	8-759-999-83	s DG408DJ
IC48	8-759-925-92	s SN74HC75NS
IC49	8-759-999-83	s DG408DJ
IC50	8-759-999-83	s DG408DJ
IC51	8-759-925-92	s SN74HC75NS
IC52	8-759-999-83	s DG408DJ
IC53	8-759-999-83	s DG408DJ
IC54	8-759-925-92	s SN74HC75NS
IC55	8-759-999-83	s DG408DJ
IC56	8-759-999-83	s DG408DJ
IC57	8-759-925-92	s SN74HC75NS
IC58	8-759-999-83	s DG408DJ
IC59	8-759-999-83	s DG408DJ
IC60	8-759-925-92	s SN74HC75NS
IC61	8-759-999-83	s DG408DJ
IC62	8-759-999-83	s DG408DJ
IC63	8-759-925-92	s SN74HC75NS
IC64	8-759-999-83	s DG408DJ
IC65	8-759-999-83	s DG408DJ
IC66	8-759-925-92	s SN74HC75NS
IC67	8-759-999-83	s DG408DJ
IC68	8-759-999-83	s DG408DJ

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
IC69	8-759-925-92	s SN74HC75NS
IC70	8-759-925-92	s SN74HC75NS
Q1	8-729-901-13	s DTA144WK-96
R1	1-214-848-00	s METAL 220 1% 1/2W
R2	1-214-852-00	s METAL 330 1% 1/2W
R4	1-218-367-91	s METAL 10K 0.10% 1/16W
R5	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R6	1-218-367-91	s METAL 10K 0.10% 1/16W
R7	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R11	1-214-848-00	s METAL 220 1% 1/2W
R12	1-214-852-00	s METAL 330 1% 1/2W
R14	1-218-367-91	s METAL 10K 0.10% 1/16W
R15	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R16	1-218-367-91	s METAL 10K 0.10% 1/16W
R17	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R21	1-214-848-00	s METAL 220 1% 1/2W
R22	1-214-852-00	s METAL 330 1% 1/2W
R24	1-218-367-91	s METAL 10K 0.10% 1/16W
R25	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R26	1-218-367-91	s METAL 10K 0.10% 1/16W
R27	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R31	1-214-848-00	s METAL 220 1% 1/2W
R32	1-214-852-00	s METAL 330 1% 1/2W
R34	1-218-367-91	s METAL 10K 0.10% 1/16W
R35	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R36	1-218-367-91	s METAL 10K 0.10% 1/16W
R37	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R41	1-214-848-00	s METAL 220 1% 1/2W
R42	1-214-852-00	s METAL 330 1% 1/2W
R44	1-218-367-91	s METAL 10K 0.10% 1/16W
R45	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R46	1-218-367-91	s METAL 10K 0.10% 1/16W
R47	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R51	1-214-848-00	s METAL 220 1% 1/2W
R52	1-214-852-00	s METAL 330 1% 1/2W
R54	1-218-367-91	s METAL 10K 0.10% 1/16W
R55	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R56	1-218-367-91	s METAL 10K 0.10% 1/16W
R57	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R61	1-214-848-00	s METAL 220 1% 1/2W
R62	1-214-852-00	s METAL 330 1% 1/2W
R64	1-218-367-91	s METAL 10K 0.10% 1/16W
R65	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R66	1-218-367-91	s METAL 10K 0.10% 1/16W
R67	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R71	1-214-848-00	s METAL 220 1% 1/2W
R72	1-214-852-00	s METAL 330 1% 1/2W
R74	1-218-367-91	s METAL 10K 0.10% 1/16W
R75	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R76	1-218-367-91	s METAL 10K 0.10% 1/16W
R77	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R81	1-214-848-00	s METAL 220 1% 1/2W
R82	1-214-852-00	s METAL 330 1% 1/2W
R84	1-218-367-91	s METAL 10K 0.10% 1/16W
R85	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R86	1-218-367-91	s METAL 10K 0.10% 1/16W
R87	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R91	1-214-848-00	s METAL 220 1% 1/2W

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

ASW-17 (BVS-A1212)

(ASW-17 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R92	1-214-852-00	s METAL 330 1% 1/2W
R94	1-218-367-91	s METAL 10K 0.10% 1/16W
R95	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R96	1-218-367-91	s METAL 10K 0.10% 1/16W
R97	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R101	1-214-848-00	s METAL 220 1% 1/2W
R102	1-214-852-00	s METAL 330 1% 1/2W
R104	1-218-367-91	s METAL 10K 0.10% 1/16W
R105	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R106	1-218-367-91	s METAL 10K 0.10% 1/16W
R107	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R111	1-214-848-00	s METAL 220 1% 1/2W
R112	1-214-852-00	s METAL 330 1% 1/2W
R114	1-218-367-91	s METAL 10K 0.10% 1/16W
R115	1-218-366-91	s METAL 3.3K 0.10% 1/16W
R116	1-218-367-91	s METAL 10K 0.10% 1/16W
R117	1-218-366-91	s METAL 3.3K 0.10% 1/16W
RV1	1-238-740-11	s RES, ADJ, CERMET 20
RV2	1-238-740-11	s RES, ADJ, CERMET 20
RV3	1-238-740-11	s RES, ADJ, CERMET 20
RV4	1-238-740-11	s RES, ADJ, CERMET 20
RV5	1-238-740-11	s RES, ADJ, CERMET 20
RV6	1-238-740-11	s RES, ADJ, CERMET 20
RV7	1-238-740-11	s RES, ADJ, CERMET 20
RV8	1-238-740-11	s RES, ADJ, CERMET 20
RV9	1-238-740-11	s RES, ADJ, CERMET 20
RV10	1-238-740-11	s RES, ADJ, CERMET 20
RV11	1-238-740-11	s RES, ADJ, CERMET 20
RV12	1-238-740-11	s RES, ADJ, CERMET 20
S1	1-552-509-00	s DIP
S2	1-552-509-00	s DIP
S3	1-552-509-00	s DIP
S4	1-552-509-00	s DIP
S5	1-552-509-00	s DIP
S6	1-552-509-00	s DIP
S7	1-552-509-00	s DIP
S8	1-552-509-00	s DIP
S9	1-552-509-00	s DIP
S10	1-552-509-00	s DIP
S11	1-552-509-00	s DIP
S12	1-552-509-00	s DIP

AA-48 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-6261-054-A	o MOUNTED CIRCUIT BOARD, AA-48
C1	1-126-396-11	s ELECT 47uF 20% 16V
C2	1-126-396-11	s ELECT 47uF 20% 16V
C3	1-126-396-11	s ELECT 47uF 20% 16V
C4	1-126-396-11	s ELECT 47uF 20% 16V
C5	1-126-396-11	s ELECT 47uF 20% 16V
C6	1-126-396-11	s ELECT 47uF 20% 16V
C7	1-163-011-11	s CERAMIC 0.0015uF 10% 50V
C8	1-163-011-11	s CERAMIC 0.0015uF 10% 50V
C9	1-163-117-00	s CERAMIC 100PF 5% 50V
C10	1-163-117-00	s CERAMIC 100PF 5% 50V
CN1	1-568-557-11	s HEADDER, PIN 5P
CN2	1-565-241-11	o HEADDER, PIN 8P
D1	8-719-800-76	s 1SS123-T1
D2	8-719-800-76	s 1SS123-T1
IC1	8-759-710-97	s NJM4565MD
Q1	8-729-216-22	s 2SA812-T1M6
Q2	8-729-216-22	s 2SA812-T1M6
Q3	8-729-100-66	s 2SC1623-T1L6
Q4	8-729-100-66	s 2SC1623-T1L6
Q5	8-729-100-66	s 2SC1623-T1L6
Q6	8-729-216-22	s 2SA812-T1M6
Q7	8-729-106-68	s 2SD1615A-T1GP
Q8	8-729-106-60	s 2SB1115A-T1YP
Q9	8-729-216-22	s 2SA812-T1M6
Q10	8-729-216-22	s 2SA812-T1M6
Q11	8-729-100-66	s 2SC1623-T1L6
Q12	8-729-100-66	s 2SC1623-T1L6
Q13	8-729-100-66	s 2SC1623-T1L6
Q14	8-729-216-22	s 2SA812-T1M6
Q15	8-729-106-68	s 2SD1615A-T1GP
Q16	8-729-106-60	s 2SB1115A-T1YP
R5	1-216-107-00	s METAL GLAZE 270K 5% 1/10W
R28	1-216-107-00	s METAL GLAZE 270K 5% 1/10W
RV1	1-228-471-00	s VAR, CERMET 1K

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

CPU-68 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-6267-177-A	o MOUNTED CIRCUIT BOARD, CPU-68
3pcs	1-562-579-21	s RECEPTACLE,
1pc	2-182-909-01	o LEVER, PC BOARD
2pcs	7-626-320-11	o PIN, SPRING 3x8
BZ1	1-529-025-00	s BUZZER
C1	1-126-392-11	s ELECT 100uF 20% 6.3V
C2	1-126-392-11	s ELECT 100uF 20% 6.3V
C3	1-126-392-11	s ELECT 100uF 20% 6.3V
C4	1-126-392-11	s ELECT 100uF 20% 6.3V
C5	1-163-038-00	s CERAMIC 0.1 25V
C6	1-135-092-21	s TANTAL 3.3uF 10% 16V
C7	1-163-038-00	s CERAMIC 0.1 25V
C10	1-126-392-11	s ELECT 100uF 20% 6.3V
C11	1-163-227-91	s CERAMIC 33PF 0.5PF 50V
C12	1-163-227-91	s CERAMIC 33PF 0.5PF 50V
C13	1-163-093-00	s CERAMIC 10PF 5% 50V
C16	1-163-137-00	s CERAMIC 680PF 5% 50V
C17	1-163-137-00	s CERAMIC 680PF 5% 50V
C20	1-135-092-21	s TANTAL 3.3uF 10% 16V
C21	1-135-092-21	s TANTAL 3.3uF 10% 16V
C22	1-126-392-11	s ELECT 100uF 20% 6.3V
C23	1-163-038-00	s CERAMIC 0.1 25V
C24	1-163-038-00	s CERAMIC 0.1 25V
C25	1-163-038-00	s CERAMIC 0.1 25V
C26	1-126-392-11	s ELECT 100uF 20% 6.3V
C27	1-163-038-00	s CERAMIC 0.1 25V
C28	1-126-392-11	s ELECT 100uF 20% 6.3V
C29	1-126-392-11	s ELECT 100uF 20% 6.3V
C30	1-163-038-00	s CERAMIC 0.1 25V
C31	1-126-392-11	s ELECT 100uF 20% 6.3V
C32	1-163-105-00	s CERAMIC 33PF 5% 50V
C33	1-163-227-91	s CERAMIC 33PF 5% 50V
C34	1-163-038-00	s CERAMIC 0.1 25V
C35	1-163-038-00	s CERAMIC 0.1 25V
C36	1-163-038-00	s CERAMIC 0.1 25V
C38	1-163-251-11	s CERAMIC 100PF 5% 50V
C39	1-163-038-00	s CERAMIC 0.1 25V
C40	1-163-119-00	s CERAMIC 120PF 5% 50V
C41	1-126-395-11	s ELECT 22uF 20% 16V
C42	1-163-038-00	s CERAMIC 0.1 25V
C45	1-126-392-11	s ELECT 100uF 20% 6.3V
C46	1-163-125-00	s CERAMIC 220PF 5% 50V
C47	1-163-038-00	s CERAMIC 0.1 25V
C48	1-135-092-21	s TANTAL 3.3uF 10% 16V
C49	1-163-038-00	s CERAMIC 0.1 25V
C50	1-163-038-00	s CERAMIC 0.1 25V
C51	1-163-038-00	s CERAMIC 0.1 25V
C52	1-163-104-00	s CERAMIC 30PF 5% 50V
C53	1-163-104-00	s CERAMIC 30PF 5% 50V
C54	1-163-038-00	s CERAMIC 0.1 25V
C55	1-163-038-00	s CERAMIC 0.1 25V
C56	1-163-038-00	s CERAMIC 0.1 25V
C58	1-126-634-11	s ELECT 2200uF 5.5VF
C59	1-125-570-11	s ELEF 5.5VF
C64	1-126-392-11	s ELECT 100uF 20% 6.3V
C65	1-126-392-11	s ELECT 100uF 20% 6.3V
C66	1-163-038-00	s CERAMIC 0.1 25V
C67	1-126-392-11	s ELECT 100uF 20% 6.3V

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C69	1-126-392-11	s ELECT 100uF 20% 6.3V
C71	1-163-038-00	s CERAMIC 0.1 25V
C72	1-163-038-00	s CERAMIC 0.1 25V
C73	1-163-038-00	s CERAMIC 0.1 25V
C74	1-135-092-21	s TANTAL 3.3uF 10% 16V
C75	1-135-092-21	s TANTAL 3.3uF 10% 16V
C76	1-163-038-00	s CERAMIC 0.1 25V
C77	1-135-092-21	s TANTAL 3.3uF 10% 16V
C78	1-135-092-21	s TANTAL 3.3uF 10% 16V
C79	1-163-141-00	s CERAMIC 0.001uF 5% 50V
C80	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C81	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C82	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C83	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C84	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C85	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C86	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C87	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C88	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C89	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C90	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C91	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C92	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C93	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C94	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C95	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C96	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C97	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C98	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C99	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C100	1-163-017-91	o CERAMIC 0.0047uF 10% 50V
C102	1-161-694-00	s CERAMIC 0.022PF 30% 25V
CN1M	1-566-986-11	o CONNECTOR, MULTI 100P
CN2M	1-566-986-11	o CONNECTOR, MULTI 100P
CN3M	1-564-359-00	o HEADER, CONNECTOR 20P
D4	8-719-100-03	s 1S2835
D5	8-719-100-03	s 1S2835
D6	8-719-100-03	s 1S2835
D7	8-719-100-03	s 1S2835
D8	8-719-100-03	s 1S2835
D9	8-719-100-03	s 1S2835
D10	8-719-100-03	s 1S2835
D11	8-719-100-03	s 1S2835
D13	8-719-100-03	s 1S2835
D14	8-719-100-03	s 1S2835
D15	8-719-400-35	s LN35BP
D16	8-719-400-35	s LN35BP
D17	8-719-100-03	s 1S2835
D18	8-719-100-03	s 1S2835
D19	8-719-100-03	s 1S2835
D20	8-719-100-03	s 1S2835
D21	8-719-100-03	s 1S2835
D22	8-719-100-03	s 1S2835
D23	8-719-100-03	s 1S2835
D24	8-719-100-03	s 1S2835
D25	8-719-100-03	s 1S2835

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

CPU-68 (BVS-A1212)

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
FL1	1-236-129-11	s ENCAPSULATED COMPONENT
FL2	1-236-129-11	s ENCAPSULATED COMPONENT
FL3	1-236-129-11	s ENCAPSULATED COMPONENT
FL4	1-236-129-11	s ENCAPSULATED COMPONENT
FL5	1-236-129-11	s ENCAPSULATED COMPONENT
FL6	1-236-129-11	s ENCAPSULATED COMPONENT
FL7	1-236-129-11	s ENCAPSULATED COMPONENT
FL8	1-236-129-11	s ENCAPSULATED COMPONENT
FL9	1-236-129-11	s ENCAPSULATED COMPONENT
FL10	1-236-129-11	s ENCAPSULATED COMPONENT
FL11	1-236-129-11	s ENCAPSULATED COMPONENT
FL12	1-236-129-11	s ENCAPSULATED COMPONENT
FL13	1-236-129-11	s ENCAPSULATED COMPONENT
FL14	1-236-129-11	s ENCAPSULATED COMPONENT
FL15	1-236-129-11	s ENCAPSULATED COMPONENT
ICA3	8-759-908-35	s TL7705CP-B
ICB1	8-759-926-32	s AM26LS32PC
ICB2	8-759-927-29	s SN74HC04NS
ICB3	8-759-113-74	s UPD72001C
ICB4	8-759-204-94	s TC74HC00F
ICB5	8-759-707-81	s 27C256A-BVS1212-V102
ICB6	8-752-328-10	s CXK5864BP-10L
ICB7	8-759-926-77	s SN74HC541NS
ICC1	8-759-926-30	s AM26LS30PC
ICC2	8-759-926-74	s SN74HC393NS
ICC4	8-759-926-12	s SN74HC139NS
ICC7	8-759-926-49	s SN74HC245NS
ICD1	8-759-926-30	s AM26LS30PC
ICD2	8-759-204-96	s TC74HC04F
ICD6	8-759-926-11	s SN74HC138NS
ICD7	8-759-204-94	s TC74HC00F
ICE4	8-759-143-98	s UPD70320L-8
ICE6	8-759-926-11	s SN74HC138NS
ICE7	8-759-927-46	s SN74HC00NS
ICF2	8-759-008-52	s TC74HC123AF
ICF3	8-759-008-52	s TC74HC123AF
ICF7	8-759-008-52	s TC74HC123AF
ICG2	8-759-987-27	s LM1881M
ICH2	8-759-938-68	s CXD1095Q
ICH5	8-759-938-68	s CXD1095Q
ICH6	8-759-938-68	s CXD1095Q
JW1	1-564-948-21	o PIN, CONNECTOR 3P
JW2	1-564-948-21	o PIN, CONNECTOR 3P
JW3	1-564-948-21	o PIN, CONNECTOR 3P
ND1	8-719-901-68	s GL-6R202
Q5	8-729-107-31	s 2SC3545-T1T44
Q6	8-729-216-22	s 2SA812-T1M6
Q7	8-729-113-23	s FA1L4L-T1L30
Q8	8-729-113-23	s FA1L4L-T1L30
Q9	8-729-113-23	s FA1L4L-T1L30
Q10	8-729-113-23	s FA1L4L-T1L30
Q11	8-729-113-23	s FA1L4L-T1L30
Q12	8-729-113-23	s FA1L4L-T1L30
Q13	8-729-113-23	s FA1L4L-T1L30
Q14	8-729-113-23	s FA1L4L-T1L30

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
Q15	8-729-113-23	s FA1L4L-T1L30
Q16	8-729-113-23	s FA1L4L-T1L30
Q17	8-729-113-23	s FA1L4L-T1L30
Q18	8-729-113-23	s FA1L4L-T1L30
Q19	8-729-113-23	s FA1L4L-T1L30
Q20	8-729-113-23	s FA1L4L-T1L30
Q21	8-729-901-13	s DTA144WK-T-96
Q22	8-729-901-13	s DTA144WK-T-96
Q23	8-729-901-13	s DTA144WK-T-96
Q24	8-729-901-13	s DTA144WK-T-96
Q25	8-729-901-13	s DTA144WK-T-96
Q26	8-729-901-13	s DTA144WK-T-96
Q27	8-729-901-13	s DTA144WK-T-96
Q28	8-729-901-13	s DTA144WK-T-96
Q29	8-729-901-13	s DTA144WK-T-96
Q30	8-729-901-13	s DTA144WK-T-96
Q31	8-729-901-13	s DTA144WK-T-96
Q32	8-729-901-13	s DTA144WK-T-96
Q33	8-729-901-13	s DTA144WK-T-96
Q34	8-729-901-13	s DTA144WK-T-96
Q35	8-729-107-31	s 2SC3545-T1T44
R10	1-216-121-00	s METAL 1M 5% 1/10W
R22	1-216-105-00	s METAL 220K 5% 1/10W
R24	1-216-109-00	s METAL 330K 5% 1/10W
R25	1-216-105-00	s METAL 220K 5% 1/10W
R28	1-216-615-11	s METAL 33 0.50% 1/10W
R29	1-216-117-00	s METAL 680K 5% 1/10W
R84	1-216-295-00	s METAL 0 5% 1/10W
R85	1-216-295-00	s METAL 0 5% 1/10W
R146	1-216-615-11	s METAL 33 0.50% 1/10W
R148	1-216-121-00	s METAL 1M 5% 1/10W
R216	1-216-295-00	s METAL 0 5% 1/10W
S1	1-571-967-11	s SWITCH, DIP (PIANO TYPE)
S2	1-554-027-00	s ROTARY
S3	1-554-027-00	s ROTARY
S4	1-570-623-11	s DIP
S5	1-570-623-11	s DIP
S6	1-554-080-00	s SWITCH, ROTARY
S7	1-554-080-00	s SWITCH, ROTARY
S8	1-554-080-00	s SWITCH, ROTARY
S9	1-554-080-00	s SWITCH, ROTARY
S11	1-552-539-00	s KEY BOARD
X1	1-567-133-00	s OSCILLATOR, CERAMIC 4.91MHz
X2	1-567-927-11	s OSCILLATOR, CERAMIC 16.00MHz

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

TR-56 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-6266-175-A	o MOUNTED CIRCUIT BOARD, TR-56
CN1M	1-506-471-11	s 6P
CN2M	1-506-471-11	s 6P
CN3M	1-506-471-11	s 6P
CN4M	1-506-471-11	s 6P
CN5M	1-506-471-11	s 6P
CN6M	1-506-471-11	s 6P
CN7M	1-506-471-11	s 6P
CN8M	1-506-471-11	s 6P
CN9M	1-506-471-11	s 6P
CN10M	1-506-471-11	s 6P
CN11M	1-506-471-11	s 6P
CN12M	1-506-471-11	s 6P
CN13M	1-506-471-11	s 6P
R1	1-215-377-00	s METAL 15 1% 1/6W
R2	1-215-377-00	s METAL 15 1% 1/6W
R3	1-215-377-00	s METAL 15 1% 1/6W
R4	1-215-377-00	s METAL 15 1% 1/6W
R5	1-215-377-00	s METAL 15 1% 1/6W
R6	1-215-377-00	s METAL 15 1% 1/6W
R7	1-215-377-00	s METAL 15 1% 1/6W
R8	1-215-377-00	s METAL 15 1% 1/6W
R9	1-215-377-00	s METAL 15 1% 1/6W
R10	1-215-377-00	s METAL 15 1% 1/6W
R11	1-215-377-00	s METAL 15 1% 1/6W
R12	1-215-377-00	s METAL 15 1% 1/6W
R13	1-215-377-00	s METAL 15 1% 1/6W
S1	1-516-278-00	s SLIDE SWITCH
S2	1-516-278-00	s SLIDE SWITCH
S3	1-516-278-00	s SLIDE SWITCH
S4	1-516-278-00	s SLIDE SWITCH
S5	1-516-278-00	s SLIDE SWITCH
S6	1-516-278-00	s SLIDE SWITCH
S7	1-516-278-00	s SLIDE SWITCH
S8	1-516-278-00	s SLIDE SWITCH
S9	1-516-278-00	s SLIDE SWITCH
S10	1-516-278-00	s SLIDE SWITCH
S11	1-516-278-00	s SLIDE SWITCH
S12	1-516-278-00	s SLIDE SWITCH
S13	1-516-278-00	s SLIDE SWITCH
T1	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T2	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T3	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T4	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T5	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T6	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T7	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T8	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T9	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T10	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T11	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T12	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
T13	1-427-603-11	s TRANSFORMER, AUDIO OUTPUT
TH1	1-807-269-11	s THERMISTOR
TH2	1-807-269-11	s THERMISTOR
TH3	1-807-269-11	s THERMISTOR
TH4	1-807-269-11	s THERMISTOR

(TR-56 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
TH5	1-807-269-11	s THERMISTOR
TH6	1-807-269-11	s THERMISTOR
TH7	1-807-269-11	s THERMISTOR
TH8	1-807-269-11	s THERMISTOR
TH9	1-807-269-11	s THERMISTOR
TH10	1-807-269-11	s THERMISTOR
TH11	1-807-269-11	s THERMISTOR
TH12	1-807-269-11	s THERMISTOR
TH13	1-807-269-11	s THERMISTOR

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

MB-262, LE-76 (BVS-A1212)

MB-262 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-6266-174-A	o MOUNTED CIRCUIT BOARD, MB-262
1pc	2-139-025-01	o BRACKET, MB
12pcs	7-622-207-05	s N 2.6, TYPE 2
1pc	7-628-254-20	s SCREW +PS 2.6X8
1pc	7-682-903-01	s SCREW +PWH 3X5
C1	1-126-101-11	s ELECT 100 20% 16V
CN1F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN2F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN3F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN4F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN5F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN6F	1-566-985-11	o RECEPTACLE,MULTI CONNECTOR100P
CN7M	1-564-921-11	o PIN, CONNECTOR 7P
CN8M	1-564-002-31	s 3P
CN9M	1-564-001-11	o 2P
CN10M	1-506-469-11	s 4P
CN11M	1-506-479-11	o PIN, CONNECTOR 14P
CN12M	1-506-477-31	o PIN, CONNECTOR 12P
CN13M	1-506-474-11	o PIN, CONNECTOR 9P
CN15M	1-506-477-11	o PIN, CONNECTOR 12P
CN16M	1-506-477-11	o PIN, CONNECTOR 12P
CN17M	1-506-477-11	o PIN, CONNECTOR 12P
CN18M	1-506-477-11	o PIN, CONNECTOR 12P
CN19M	1-506-477-11	o PIN, CONNECTOR 12P
CN20M	1-506-477-11	o PIN, CONNECTOR 12P
CN21M	1-506-471-11	s 6P
CN22M	1-506-471-11	s 6P
CN23M	1-506-471-11	s 6P
CN24M	1-506-471-11	s 6P
CN25M	1-506-471-11	s 6P
CN26M	1-506-471-11	s 6P
CN27M	1-506-471-11	s 6P
CN28M	1-506-471-11	s 6P
CN29M	1-506-471-11	s 6P
CN30M	1-506-471-11	s 6P
CN31M	1-506-471-11	s 6P
CN32M	1-506-471-11	s 6P
CN33M	1-506-471-11	s 6P
CN34M	1-506-471-11	s 6P
CN35M	1-506-468-11	s 3P
FL1	1-421-773-11	s FILTER, NOISE REMOVAL
FL2	1-421-773-11	s FILTER, NOISE REMOVAL
FL3	1-421-773-11	s FILTER, NOISE REMOVAL
R1	1-215-861-00	s METAL 47 5% 1W

LE-76 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-631-489-11	o PC BOARD, LE-76
4pcs	3-674-390-00	o HOLDER (B), LED
CN1	1-506-468-11	s 3P
D1	8-719-812-32	s TLY123
D2	8-719-812-32	s TLY123
D3	8-719-812-32	s TLY123
D4	8-719-812-32	s TLY123
R1	1-249-408-11	s CARBON 180 5% 1/4W
R2	1-249-408-11	s CARBON 180 5% 1/4W
R3	1-249-408-11	s CARBON 180 5% 1/4W
R4	1-249-408-11	s CARBON 180 5% 1/4W

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

FRAME

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-944-065-11	o HARNESS (A102) (20P/20P/20P)

(to TR-56 BOARD)

CN1L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN2L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN3L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN4L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN5L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN6L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN7L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN8L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN9L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN10L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN11L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN12L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN13L	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN1R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN2R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN3R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN4R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN5R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN6R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN7R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN8R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN9R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
CN10R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN11R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN12R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN13R	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT

(to MB-262 BOARD)

CN7M	1-562-822-11	o HOUSING, 7P
	1-560-764-21	o CONTACT
CN8M	1-562-148-11	o HOUSING, 3P
	1-564-026-11	o CONTACT
CN10M	1-562-149-11	o HOUSING, 4P
	1-563-088-11	o CONTACT
CN11M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN12M	1-562-185-11	o HOUSING, 14P
	1-563-814-11	o CONTACT
CN13M	1-562-154-11	o HOUSING, 9P
	1-563-088-11	o CONTACT
CN15M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN16M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN17M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN18M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN19M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN20M	1-562-157-11	o HOUSING, 12P
	1-563-088-11	o CONTACT
CN21M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN22M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN23M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN24M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN25M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN26M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT
CN27M	1-562-151-11	o HOUSING, 6P
	1-563-088-11	o CONTACT

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

FRAME, PACKIN BOARD (BVS-A1212)

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
CN28M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN29M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN30M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN31M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN32M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN33M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN34M	1-562-151-11 o HOUSING, 6P 1-563-088-11 o CONTACT	
CN101	▲1-560-222-11 s 3P INLET	
S101	▲1-570-384-11 s SWITCH, SEESAW (AC POWER)	
(to EDD-110)	▲1-562-818-11 o HOUSING, 3P ▲1-560-764-21 o CONTACT	

PACKIN BOARD

Ref. No. or Q'ty	Part No.	SP Description
	▲1-534-754-15 s CORD, POWER (for J)	
	▲1-551-812-11 s CORD, POWER (for UC)	
	▲1-556-760-11 s CORD, POWER (3 CORE) (for EK)	
	1-564-997-11 o PLUG, BNC (WITH RESISTOR)	
	1-943-888-12 o HARNESS (UNIT)	
	3-668-459-00 s SCREW, CONNECTOR	
	2-990-242-01 o HOLDER (B), PLUG	

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

SW-354 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-6267-176-A	o MOUNTED CIRCUIT BOARD, SW-354
1pc	2-130-288-01	o SUPPORT
1pc	4-612-636-01	s SCREW, CONNECTOR FITTING
C1	1-124-589-11	s ELECT 47 20% 16V
C2	1-124-589-11	s ELECT 47 20% 16V
CN1	1-568-675-11	o CONNECTOR, D-SUB 25P
D1	8-719-911-19	s 1SS119
D2	8-719-911-19	s 1SS119
D3	8-719-911-19	s 1SS119
D4	8-719-911-19	s 1SS119
D5	8-719-911-19	s 1SS119
D6	8-719-911-19	s 1SS119
D7	8-719-911-19	s 1SS119
D8	8-719-911-19	s 1SS119
D9	8-719-911-19	s 1SS119
D10	8-719-911-19	s 1SS119
D11	8-719-911-19	s 1SS119
D12	8-719-911-19	s 1SS119
D13	8-719-911-19	s 1SS119
D14	8-719-911-19	s 1SS119
D15	8-719-911-19	s 1SS119
D16	8-719-911-19	s 1SS119
D17	8-719-911-19	s 1SS119
D18	8-719-911-19	s 1SS119
IC1	8-759-921-85	s SN74HC4515NT
IC2	8-759-921-85	s SN74HC4515NT
Q1	8-729-119-78	s 2SC2785-F
R1	1-215-405-00	s METAL 220 1% 1/6W
R2	1-215-409-00	s METAL 330 1% 1/6W
R3	1-215-373-31	s METAL 10 1% 1/6W
R4	1-215-373-31	s METAL 10 1% 1/6W
R5	1-215-453-00	s METAL 22K 1% 1/6W
R6	1-215-453-00	s METAL 22K 1% 1/6W
R7	1-215-469-00	s METAL 100K 1% 1/6W
R8	1-215-469-00	s METAL 100K 1% 1/6W
R9	1-215-469-00	s METAL 100K 1% 1/6W
R10	1-215-469-00	s METAL 100K 1% 1/6W
R11	1-215-469-00	s METAL 100K 1% 1/6W
R12	1-215-469-00	s METAL 100K 1% 1/6W
R13	1-215-469-00	s METAL 100K 1% 1/6W
R14	1-215-469-00	s METAL 100K 1% 1/6W
S1	1-571-966-12	s SWITCH, PUSH
S2	1-571-966-12	s SWITCH, PUSH
S3	1-571-966-12	s SWITCH, PUSH
S4	1-571-966-12	s SWITCH, PUSH
S5	1-571-966-12	s SWITCH, PUSH
S6	1-571-966-12	s SWITCH, PUSH
S7	1-571-966-12	s SWITCH, PUSH
S8	1-571-966-12	s SWITCH, PUSH
S9	1-571-966-12	s SWITCH, PUSH
S10	1-571-966-12	s SWITCH, PUSH
S11	1-571-966-12	s SWITCH, PUSH
S12	1-571-966-12	s SWITCH, PUSH
S13	1-572-001-11	s SWITCH, PUSH
S14	1-572-001-21	s SWITCH, PUSH

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Part List".